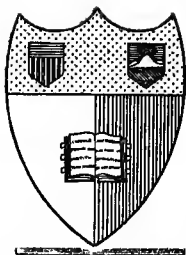




MITCHELL'S
DUPLICATE WHIST
AND
MODERN LEADS



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DUPLICATE WHIST.

DUPLICATE WHIST,

BY

JOHN T. MITCHELL,

(An Entirely New Edition.)

Containing full explanation of the various methods of duplicate play now in vogue, individual schedules up to sixty-four and instructions for formulating team schedules up to any number.

WITH APPENDICES:

MODERN LEADS AND INFERENCES.

DRAFT OF PROGRAM FOR CONGRESS.

DRAFT OF BY-LAWS FOR WHIST CLUB.

THE LAWS OF WHIST AND DUPLICATE
WHIST.

(As Adopted by the AMERICAN WHIST LEAGUE.)

KALAMAZOO, MICH.

Ihling Bros. & Everard,
1897.

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BY IHLING BROS. & EVERARD,
A. D. 1896.

TO THE
AMERICAN WHIST LEAGUE
(in particular)
AND TO
WHIST PLAYERS THE WORLD OVER
(in general)
THIS BOOK
IS RESPECTFULLY DEDICATED
BY THE AUTHOR.

ERRATA.

Owing to a misunderstanding with the author on the subject of proof reading, some errata have been allowed to pass into the final print, and it is for the purpose of calling attention to them that we now claim the reader for a few brief lines.

Page 14, line 19. Read "Corresponding Secretary" for "President "

Mr. Schwarz was President in 1895-6.

Page 57. The E. player at Table 8 in Game 24 should be 19, not 29.

The S. player at Table 6 in Game 31 should be 34, not 44.

Page 68. The figures in the Eight Table Schedule under the last two headings are transposed; *i. e.*, the last column should be read under the "Passed to" heading, and the next to the last column under the "Received from" heading.

Page 86. In the first line of foot note, "A, K or" should be inserted before "K, Q."

If the reader will kindly make these corrections in his copy of the book, he will confer a favor upon

THE PUBLISHERS,

IHLING BROS. & EVERARD.

Kalamazoo, Mich., Jan. 2, 1897.

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INTRODUCTORY.

There has been more or less controversy as to the origin of Duplicate Whist. Mr. Barnet Phillips of the New York Times informed me that it was played in Berlin and Paris as far back as 1840, but it seems to have been dropped for want of a simple method of play, and has only been revived within the last decade, owing to the invention of systems which make it as easy to practise as straight whist.

It is for the purpose of describing the various systems now in vogue that the writer has undertaken a revision of his first treatise on the subject, believing that an up-to-date text book on Duplicate Whist is a real need of the whist fraternity.

It is claimed that Duplicate Whist gives haphazard play a significance which it does not deserve, because in certain instances more tricks can be made by playing irregularly than by following the rules; but if noninformatory tactics are followed all through an evening's play, it will be found that they lose far more tricks than they gain, and Duplicate Whist is the very thing that will prove it. If giving both sets of opponents the same cards, with the same trump and the lead in the same position, does not put both sides on an equal footing then there is nothing that can do so, and if "duplicate" is not a true test of

skill, it must be acknowledged that whist, itself, is not a scientific game, but a mere succession of chance plays, which may prove fortunate or unfortunate according to the cards held by one's opponents.

Some people go to the other extreme, and claim that there is enough science in straight whist to offset any luck that poor players may have in holding cards, but the records of those clubs who have kept track of the scores of both straight and duplicate whist prove that this claim is illfounded; in fact, it is generally found that the players who make a good score at "duplicate" are poor scorers at "straight," and that is the main reason why duplicate whist is the favorite game among the better class of players.

When the first edition of "Duplicate Whist" appeared, the game it advocated was attacked with great virulence by certain of the more conservative writers of that day. It was branded a "delusion" and a "fad," and it was asserted that like most other delusions and fads it would have but an ephemeral existence. The writer, however, had an abiding faith in the future of the game he was trying to make the whist fraternity adopt as their standard, and time has proved him a better prophet than his critics, for to-day "it is the only method employed in testing the merits of rival teams or clubs," just as he said it would be.

A little longer time is required to play a given number of hands at duplicate than at straight whist,

but the resulting gain or loss is so much more conclusive as to the skill of the players that the extra time consumed must be considered well expended. Every whist player knows that when the high cards are against him it is impossible for him to take a majority of the tricks; and while there may be something in keeping down the opponent's majority, it is nothing compared with the certainty that before the close of the game the chances will be evened up, and both sides given equal opportunities. This certainly adds zest to the contest, and makes every player bend all his energies to the game, knowing full well that if he lets opportunities slip there is no way to recover them, for there is practically no luck in duplicate whist, and therefore no going behind the returns.

The systems of play as laid down by the authorities are not interfered with, except as regards playing to the score, which would be manifestly out of place when the object is to take the greatest number of tricks with every hand. Each player is free to follow his favorite "master," and the result of the game, provided he makes no mistakes and has worthy opponents, will surely prove whether he has found the true principles of the "king of games," or has been following false lights only to find himself floundering in the mire of defeat.

With these introductory remarks the duplicate game is commended to all true lovers of whist. In all clubs and coteries where whist is played for its

own sake, "duplicate" is now the only game played, "straight" being confined to those clubs that allow playing for stakes, where a game is required which gives the mediocre player a show for his money.



HISTORICAL.

Cavendish, in his "Card Table Talk," says:—

"In the latter part of the winter of 1857, during an after-dinner conversation, it was remarked by some of the party that whist is a mere matter of chance, since no amount of ingenuity can make a king win an ace, and so on. This produced an argument as to the merits of the game; and as two of the disputants obstinately maintained the original position, it was proposed to test their powers by matching them against two excellent players in the room.

"To this match, strange to say, the bad players agreed, and a date was fixed. Before the day arrived, it was proposed to play the match in double, another rubber of two good against two bad players being formed in an adjoining room, and the hands being played over again, the good players having the cards previously held by the bad ones, and *vice versa*, the order of the play being, of course, in every other respect preserved. The difficulty now was to find two players sufficiently bad for the purpose; but two men were found, on condition of having odds laid them at starting, which was accordingly done.

"On the appointed day, a table was formed in room A, and, as soon as the first hand was played, the cards were re-sorted and conveyed into room B. There the hand was played over again, the good players in room B having the cards that the bad players had in room A. At the end of the hand, the result was noted for comparison, independently of the score, which was conducted in the usual way. Thirty-three hands were played in each room. In room A, the good players held very good cards, and won four rubbers out of six; in points, a balance of eighteen. In room B, the good players had, of course, the bad cards. They played seven rubbers with the

same number of hands that in the other room had played six, and they won three out of the seven, losing seven points on the balance. The difference, therefore, was eleven points, or nearly one point a rubber in favor of skill.

"A comparison of tricks only showed some curious results. In seven of the hands the score by cards in each room was the same. In eighteen hands the balance of the score by cards was in favor of the superior players; in eight hands in favor of the inferior. In one of these hands the bad players won two by cards at one table, and three by cards at the other.

"The most important result is, that at both tables the superior players gained a majority of tricks. In room A, they won on the balance nineteen by tricks; in Room B, they won two by tricks.

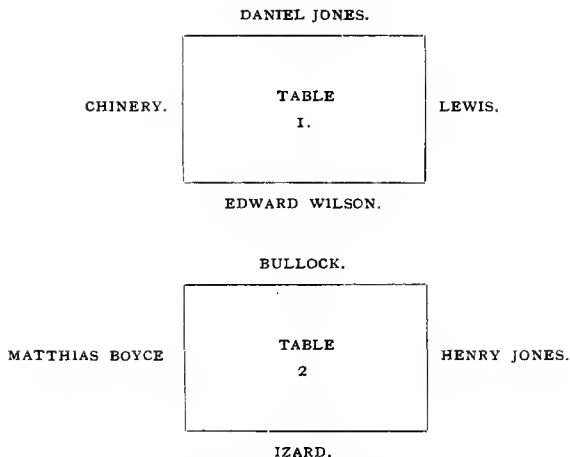
"It will be observed that this experiment does not altogether eliminate luck, as bad play sometimes succeeds. But by far the greater part of luck, namely, that due to the superiority of winning cards, is by the plan described quite got rid of."

In reply to an inquiry made by Mr. Theodore Schwarz, then ^{President} of the American Whist League, Cavendish gave the names of the players who participated in the game above described, as per the following letter:

AUGUST 17TH, 1893.

My Dear Schwarz:—

You wanted to know the names of the first duplicate whist players. The date has already been given in "Whist." I have heard from my brother and he states as follows:



Daniel Jones is my brother. Chinery was afterwards editor of The Times. John D. Lewis was afterwards M. P. for Davenport. Boyce is known in whist circles as "Mogul."

HENRY JONES.

G. W. P., in "American Whist Illustrated," says:—

"The play of trumps at the outset from five or more does not, in a majority of cases, win more tricks for the player than will their proper husbandry and use. If you will play twenty or fifty hands in duplicate, you may ascertain this fact."

Neither of these writers, however, gives the *modus operandi* of duplicate play, nor was it intended by them that the duplicate method should be generally practised,—probably because they were unacquainted with any simple manner of playing it.

In the spring of 1888 the following paragraph appeared in the London Field: "A match at whist was played in Glasgow between teams of the Carleton and Wanderer's Clubs, April 16, when a new system of duplicate play, the invention of Mr. James Allison, was tested. The cards at the commencement of each hand were dealt in the usual manner, but in the course of play they were not formed into tricks. Each player kept his thirteen cards before him till the finish of the hand, and after playing to each trick he placed his card either longwise or shortwise, to show by which side the trick had been won. This arrangement prevailed at two tables, the hands being simultaneously played. The hands, as soon as finished, were gathered up by each player and placed, backs up, on the table, the dealer leaving the trump card, face up, on top of his pack. The players then changed tables and replayed the hand, the players being reversed. A deal was only necessary every two hands, and but little more time, after some practice, was taken than in playing one hand in the usual way."

This system has been adopted by most of the duplicate whist players in this country, except that the players are reversed prior to the commencement of the game, the players of one four sitting north and south at the first table and east and west at the second table, while the players of the other four sit east and west at the first table and north and south

at the second, and the hands are passed from one table to the other by means of trays or boards* specially prepared for holding the cards.

Instead of designating the winner of a trick by placing the card longwise or shortwise, sometimes chips or counters are used, and as each trick is won a chip is taken, and the number of chips held at the end of the hand shows the number of tricks taken by each side.

It may be remarked that in single table or two table duplicate, the hands may be replayed exactly as in straight whist, the cards being thrown into the center of the table and gathered into tricks.

*Until the invention of the Kalamazoo Tray the playing of duplicate whist was considered a more or less tedious affair, especially when it was deemed advisable to preserve a record of the play, and, in fact, it is questionable if duplicate whist would ever have become the popular game it is to-day, but for that invention.



INTERCLUB DUPLICATE WHIST.

This is the name now given to that form of the game in which the replay of the hands is not accomplished at the same table nor by the same players who played the originals, but by co-partners at another table, in fact, the team-of-four game. Two players of one four sit north-south at the first table, and the other two sit east-west at the second table, while two players of the opposing four sit east-west at the first table and the other two north-south at the second. When the duplicate hand has been played, both fours have held all the hands at both tables, and each should have taken thirteen tricks for every hand, the points gained and lost being the difference between that number and the number actually taken. The original scores should not be divulged until after the duplicate hands have been played, and the strictest silence should prevail until the game is finished, as any conversation heard at the other table is liable to influence the play. Twenty-four hands (twelve original deals at each table) can be played in about two hours and a half, and should afford ample test of the merits of opposing fours.

In case of a large number of players in one assembly the hands may be passed from table to

table so that all the players may play the same deals and an "average" struck for the north-south and east-west hands. This gives a basis from which to reckon the individual gains and losses to the respective halves of each team-of-four.

In this connection, it may be remarked that if in playing a match game it should be found that each club has an incomplete team (*i. e.*, a pair without co-partners), the odd team need not be left out: the club that has the extra team sitting north-south at the last table adds the east-west average to its total score, while the club whose extra team sits east-west at the last table adds the north-south average to its score. This is as fair for one side as the other, and allows all the players present to participate in the game.

In seating the players of opposing clubs it has become a custom to place the first team of the visiting club north-south at the first table, east-west at the second, and so on down the line. This custom may be formulated into the following general rule:

Players of the visiting club shall sit north-south at the odd numbered tables, east-west at the even; and players of the home club shall sit east-west at the odd numbered tables, north-south at the even.

When the match is played on neutral ground, positions may be decided by lot or agreement.

If a match is between a large number of players on each side, it will be found advisable not to change

partners or opponents (except on the progressive principle, which will hereafter be explained), but if the match is between single teams-of-four, players may change positions after every four deals according to the following schedule, in which the numbers 1, 2, 3 and 4 represent the players of the visiting club, and the numbers 5, 6, 7 and 8 the players of the home club.

FIRST TABLE.

NORTH.		SOUTH.		EAST.		WEST.
1	and	2	against	5	and	6
1	"	2	"	7	"	8
1	"	3	"	7	"	5
1	"	3	"	6	"	8
1	"	4	"	5	"	8
1	"	4	"	6	"	7

SECOND TABLE.

NORTH.		SOUTH.		EAST.		WEST.
7	and	8	against	3	and	4
5	"	6	"	3	"	4
8	"	6	"	2	"	4
5	"	7	"	2	"	4
6	"	7	"	2	"	3
5	"	8	"	2	"	3

If the match is for forty-eight hands, the following schedule should be used for the second twenty-four, the players, of course, retaining the same numbers:

FIRST TABLE.

NORTH.		SOUTH.		EAST.		WEST.
1	and	2	against	6	and	5
1	"	2	"	8	"	7
1	"	3	"	5	"	7
1	"	3	"	8	"	6
1	"	4	"	8	"	5
1	"	4	"	7	"	6

SECOND TABLE.

NORTH.		SOUTH.		EAST.		WEST.
8	and	7	against	3	and	4
6	"	5	"	3	"	4
6	"	8	"	2	"	4
7	"	5	"	2	"	4
7	"	6	"	2	"	3
8	"	5	"	2	"	3

After the entire game has been played it will be found that each player has played against every other player the same number of times, has played through him and up to him the same number of times, and has played with every other man on his own team the same number of times.

These are the schedules adopted by the American Whist League, with some slight modifications suggested by actual practice since their adoption, and will be found to equalize the opposition to a nicety, and not allow the "personal equation" to figure unduly in the placing of teams against each other.

SCHEDULE SCORE CARD.

Versus

	CLUB NO. 1.	CLUB NO. 2.
1		5
2		6
3		7
4		8

DATE, -----

TABLE I. — NORTH.

DEAL.	N	S	E	W	SCORE.	TOTAL.	O. K. EAST.
1	1	2	5	6			
2	"	"	"	"			
3	"	"	"	"			
4	"	"	"	"			
5	"	"	7	8			
6	"	"	"	"			
7	"	"	"	"			
8	"	"	"	"			
9	"	3	7	5			
10	"	"	"	"			
11	"	"	"	"			
12	"	"	"	"			
13	"	"	6	8			
14	"	"	"	"			
15	"	"	"	"			
16	"	"	"	"			
17	"	4	5	8			
18	"	"	"	"			
19	"	"	"	"			
20	"	"	"	"			
21	"	"	6	7			
22	"	"	"	"			
23	"	"	"	"			
24	"	"	"	"			
TOTAL, -----							

SCHEDULE SCORE CARD.

Versus

	CLUB NO. 1.		CLUB NO. 2.
1		5	
2		6	
3		7	
4		8	

DATE, ...

TABLE 2. — NORTH.

DEAL.	N	S	E	W	SCORE.	TOTAL.	O. K. EAST.
1	7	8	3	4			
2	"	"	"	"			
3	"	"	"	"			
4	"	"	"	"			
5	5	6	"	"			
6	"	"	"	"			
7	"	"	"	"			
8	"	"	"	"			
9	8	6	2	4			
10	"	"	"	"			
11	"	"	"	"			
12	"	"	"	"			
13	5	7	"	"			
14	"	"	"	"			
15	"	"	"	"			
16	"	"	"	"			
17	6	7	2	3			
18	"	"	"	"			
19	"	"	"	"			
20	"	"	"	"			
21	5	8	"	"			
22	"	"	"	"			
23	"	"	"	"			
24	"	"	"	"			
TOTAL, ...							

SCHEDULE SCORE CARD.

Versus

	CLUB NO. 1.		CLUB NO. 2.
1	-----	5	-----
2	-----	6	-----
3	-----	7	-----
4	-----	8	-----

DATE, -----

TABLE I. — NORTH.

DEAL.	N	S	E	W	SCORE.	TOTAL.	O. K. EAST.
25	1	2	6	5	-----	-----	-----
26	"	"	"	"	-----	-----	-----
27	"	"	"	"	-----	-----	-----
28	"	"	"	"	-----	-----	-----
29	"	"	8	7	-----	-----	-----
30	"	"	"	"	-----	-----	-----
31	"	"	"	"	-----	-----	-----
32	"	"	"	"	-----	-----	-----
33	"	3	5	7	-----	-----	-----
34	"	"	"	"	-----	-----	-----
35	"	"	"	"	-----	-----	-----
36	"	"	"	"	-----	-----	-----
37	"	"	8	6	-----	-----	-----
38	"	"	"	"	-----	-----	-----
39	"	"	"	"	-----	-----	-----
40	"	"	"	"	-----	-----	-----
41	"	4	8	5	-----	-----	-----
42	"	"	"	"	-----	-----	-----
43	"	"	"	"	-----	-----	-----
44	"	"	"	"	-----	-----	-----
45	"	"	7	6	-----	-----	-----
46	"	"	"	"	-----	-----	-----
47	"	"	"	"	-----	-----	-----
48	"	"	"	"	-----	-----	-----
TOTAL, -----					-----	-----	-----

SCHEDULE SCORE CARD.

Versus

CLUB NO. 1.					CLUB NO. 2.				
1	-----				5	-----			
2	-----				6	-----			
3	-----				7	-----			
4	-----				8	-----			

DATE, --

TABLE 2. — NORTH.

DEAL.	N	S	E	W	SCORE.	TOTAL.	O. K. EAST.
25	8	7	3	4	-----	-----	-----
26	"	"	"	"	-----	-----	-----
27	"	"	"	"	-----	-----	-----
28	"	"	"	"	-----	-----	-----
29	6	5	"	"	-----	-----	-----
30	"	"	"	"	-----	-----	-----
31	"	"	"	"	-----	-----	-----
32	"	"	"	"	-----	-----	-----
33	6	8	2	4	-----	-----	-----
34	"	"	"	"	-----	-----	-----
35	"	"	"	"	-----	-----	-----
36	"	"	"	"	-----	-----	-----
37	7	5	"	"	-----	-----	-----
38	"	"	"	"	-----	-----	-----
39	"	"	"	"	-----	-----	-----
40	"	"	"	"	-----	-----	-----
41	7	6	2	3	-----	-----	-----
42	"	"	"	"	-----	-----	-----
43	"	"	"	"	-----	-----	-----
44	"	"	"	"	-----	-----	-----
45	8	5	"	"	-----	-----	-----
46	"	"	"	"	-----	-----	-----
47	"	"	"	"	-----	-----	-----
48	"	"	"	"	-----	-----	-----
TOTAL, -----					-----	-----	-----

Only one score card is required at each table—the north man keeping the score and the east man O. K.-ing it.

The interclub game may be used to advantage within clubs for tournaments between individuals, pairs or fours. It has been the style of game played at the Chicago Whist Club almost since its very organization, and as this club is where the writer has gained most of his experience in such matters, the game which it has adopted naturally suggests itself to him as the best that has been so far devised. From eighty to one hundred players have taken part in the weekly tourney of the Chicago Whist Club for more than four years, and there is no demand for a change of style yet. When everybody wanted to play in the individual game, the players had to be divided into sections, in order to accommodate the schedules which it was necessary to play by; and when there were entries for pairs, teams-of-four and individuals all at the same time, all were allowed to play according to their inclinations, but the game was always interclub duplicate whist, with the exception of a few months at the start, before this satisfactory game had developed.

Except when the number of players exceeds ninety-six, the number of deals per game may be limited to twenty-four, which are as many as can be comfortably played in one evening. When there are more than forty-eight players in the game, and less

than ninety-six, one hand may be dealt at each table except the last, at which as many may be dealt as are necessary to complete the twenty-four. When there are more than twenty-four players in the game and not more than forty-eight, two hands may be dealt at each table. Over twenty-four, thirty-two or less, three hands to a table; and so on, adjusting the number of hands to a table according to the number of players in the game, and making the last table deal as many as are necessary to bring the total up to twenty-four.

If it is desired to play for an individual record, it will be necessary to play under the once-with-and-twice-against schedules. This will make the number of games in a tournament just one less than the number of players in it. The gains and losses are computed by the comparison of scores with the average for the north-south or east-west hands as the case may be, and may be reckoned by tricks or games, as may be decided by the committee in charge of the game.

If the number of players in an individual record tournament is very large, and the time limited, two games of twelve hands each, or three games of eight hands each may be played in one evening; and if the total number of tables exceeds the number of hands in a game, the tournament may be divided into sections to suit the occasion. For example, in a sixty-four individual tournament, in which it was

decided to play games of eight hands, there would be two sections, and playing three games per sitting, it would take twenty-one sittings to complete the tournament. Each section would play different hands, and each would have its own average.

If it is desired to play for a pair record, the once-against schedules are all that is required, and the number of games in a tournament is one less than the number of pairs. If the time is limited the number of hands in a game may be reduced in the same way as in the individual tourney.

The once-against schedules apply also to team-of-four tournaments and as it takes four players to make a unit this is the quickest kind of a tournament. Ninety-six players in a team-of-four tournament would complete a schedule in twenty-three weeks, in a pair tournament it would take them forty-seven weeks and in an individual tournament a year and forty-three weeks, playing one game per week. If it is decided to play more than one game at a sitting, the deals per game may be reduced in the manner described, although it must be borne in mind that the fewer the deals the less satisfactory is the test obtained. For annual meetings, congresses, etc., where it is possible to have two or more sittings per day for five or six days at a stretch, the schedules may be used to great advantage, and the number of hands to be played against each club, pair or individual can be regulated according to the length of time at the disposal of the players.

PROGRESSIVE DUPLICATE WHIST.

The form of the progressive game introduced by the writer into the Chicago Whist Club in 1892 was adopted by the American Whist League for the preliminary play for the Hamilton Trophy at the Congress of 1893 and has been a feature of all succeeding Congresses. The number of hands to be played are divided equally among the number of tables, and the quota at each table is played before any progression takes place. When a set has been played the east and west players move to the next higher numbered table, while the hands are passed to the next lower numbered table and another set is played. Then the east and west players move again in the same direction as before, and the hands are passed in the opposite direction as before, and so on until a complete round of the tables has been made. The hands are passed from the first to the last table, while the east-west players move from the last table to the first. At the conclusion of the game every east and west pair has played against every north and south pair and every pair has played all the hands. The gain or loss to each team is computed by the average for the respective hands, which is figured by dividing the aggregate score by the number of tables.

The above directions apply only to games in which the number of tables is odd. If the number of tables is even, after the east and west players have made half the circuit they strike the same hands that

they started with. This difficulty has been very cleverly overcome by the invention of Professor A. Hadlock, of Kalamazoo, Mich., whose method is as follows:

Divide the total number of hands to be played into two equal parts, and finish one half before starting the other. When the east and west players get half way around in the progression they remain for another hand or set of hands at the table at which they find themselves, and then pass on to the next table. This makes them finish the first half with one table yet to play. When the second half of the game begins, the east and west players move back to the table next following the one at which they played the double set and proceed as before. When they get half way around the second time they find themselves at the table at which they did not play at all the first time, and as that is where they now play a double set of hands before passing to the next table, when they get around the second time they have played an equal number of hands at each table.

Prof. Hadlock's game will apply to any number of even tables, and in the case of four tables, it may be remarked, there is no change of positions between the first and second halves of the game, as at the third change the east and west players finish the first half and are seated at the proper tables for commencing the second.

If the number of tables is an even number not divisible by three (such as 4, 8, 10, 14, etc.,) there is another way, the invention of the writer, to get around the difficulty, which is as follows:

Start the game exactly as described in the directions for odd tables, but divide the quota to be played at each table into two equal portions, and let the east and west players move after every half set of hands has been played, and go the round of the tables twice. The hands, however, only make the round once and are played in exact succession by the north and south players, who play the unplayed half of the first set against the next comers; then the first half of the next set, and so on.

If the number of tables is so great that only one deal can be started at each table, neither of the above

methods of getting around the even table difficulty can be adopted, in which case the skipping-one-table game invented by Mr. E. T. Baker, of Brooklyn, comes into play. This is as follows:

After the east and west players have gone half way around they skip one table and continue the progression. This brings them to the table at which they started with one hand to play, and they play that hand against their original opponents.

There are two progressive "four" games. One, also the invention of the writer, is applicable to any number of tables which divided by two brings an odd result, such as six, ten, fourteen, etc. In this game half the north and south players move and half the east and west players sit still. The four players move as a unit, or remain seated as a unit, the north-south players at the odd numbered tables and the east and west at the even being the sitting fours, while the east and west at the odd and the north and south at the even are the moving fours. The hands are passed back and forth between the odd numbered tables and the next higher, and between the even numbered tables and the next lower (thus completing a match between the two fours at contiguous tables), and are then passed in blocks of two to the next lower two tables while the moving fours go to the next higher two tables. At the conclusion of the game all the moving fours have played all the sitting fours, and they have both played all the hands.

In order to facilitate the movement of the boards in this game the tables should be arranged in parallel

rows, so that 1 and 2, 3 and 4, 5 and 6, etc., are alongside each other, and the last two tables are contiguous to the first two tables. Take, for instance, fourteen tables; the arrangement would be as follows:

	2	4	6
	—	—	—
	1	3	5
14—13	11	9	7
	—	—	—
	12	10	8

If the game is between two clubs it may be divided into two independent halves, each half containing an odd number of tables. The players of one club sit north and south in one half and east and west in the other, and after each half has played a round of so many hands (one or two to a table as the time permits) the boards are passed to the other half for the re-play. If the number of tables engaged is so large that there is not time to play the minimum number of hands (one original deal at each table in each half), the hands may be dealt by a neutral committee prior to the commencement of the game, and duplicated so that identical hands may be played in each division.

If the number of tables divided by two is even, the quota of hands to be played against each four may be halved, and the moving fours go the round of the tables twice, according to directions in the pair game. This would not do, however, in the case of twelve or

twenty-four tables, as the halves of these numbers divide evenly by three.

The other progressive "four" game is the invention of Mr. E. C. Howell, of Boston, and was called in the programme of the fifth American whist congress, held at Minneapolis in 1895, "Howell's Modification of the John T. Mitchell Progressive System." It provides for the playing of every four against every other four and also for complete matches between them. In the writer's pair game no attempt is made to have the east and west co-partners of any north-south team play the same hands in duplicate against the north and south co-partners of the east-west team that started them. This is accomplished in the Howell method by the following process: "The players move as in Mitchell's system, but the trays are carried, not to the next table, but from the middle to the head, with the others in natural order. With only three tables in play the two systems are identical. With five tables Howell moves the trays up two tables, with seven tables, three; with nine tables, four, and so on."

When the number of players engaged make an even number of tables an extra table is put in, and during the play there are always two tables which are idle, but the hands are passed back and forth just the same as though the tables were fully occupied.

The effect of this scheme is to bring about the overplay of the same deals by the same teams, and

the score is usually counted by matches won instead of tricks gained. In case of a tie the tricks decide.

Schedules showing movement of trays under Howell system:

4-5 Tables. 6-7 Tables. 8-9 Tables. 10-11 Tables. 12-13 Tables.

3 to 1	4 to 1	5 to 1	6 to 1	7 to 1
4 to 2	5 to 2	6 to 2	7 to 2	8 to 2
5 to 3	6 to 3	7 to 3	8 to 3	9 to 3
1 to 4	7 to 4	8 to 4	9 to 4	10 to 4
2 to 5	1 to 5	9 to 5	10 to 5	11 to 5
	2 to 6	1 to 6	11 to 6	12 to 6
	3 to 7	2 to 7	1 to 7	13 to 7
		3 to 8	2 to 8	1 to 8
		4 to 9	3 to 9	2 to 9
			4 to 10	3 to 10
			5 to 11	4 to 11
				5 to 12
				6 to 13

14-15 Tables. 16-17 Tables. 18-19 Tables. 20-21 Tables.

8 to 1	9 to 1	10 to 1	11 to 1
9 to 2	10 to 2	11 to 2	12 to 2
10 to 3	11 to 3	12 to 3	13 to 3
11 to 4	12 to 4	13 to 4	14 to 4
12 to 5	13 to 5	14 to 5	15 to 5
13 to 6	14 to 6	15 to 6	16 to 6
14 to 7	15 to 7	16 to 7	17 to 7
15 to 8	16 to 8	17 to 8	18 to 8
1 to 9	17 to 9	18 to 9	19 to 9
2 to 10	1 to 10	19 to 10	20 to 10
3 to 11	2 to 11	1 to 11	21 to 11
4 to 12	3 to 12	2 to 12	1 to 12
5 to 13	4 to 13	3 to 13	2 to 13
6 to 14	5 to 14	4 to 14	3 to 14
7 to 15	6 to 15	5 to 15	4 to 15
	7 to 16	6 to 16	5 to 16
	8 to 17	7 to 17	6 to 17
		8 to 18	7 to 18
		9 to 19	8 to 19
			9 to 20
			10 to 21

22-23 Tables.	24-25 Tables.	26-27 Tables.	28-29 Tables.
12 to 1	13 to 1	14 to 1	15 to 1
13 to 2	14 to 2	15 to 2	16 to 2
14 to 3	15 to 3	16 to 3	17 to 3
15 to 4	16 to 4	17 to 4	18 to 4
16 to 5	17 to 5	18 to 5	19 to 5
17 to 6	18 to 6	19 to 6	20 to 6
18 to 7	19 to 7	20 to 7	21 to 7
19 to 8	20 to 8	21 to 8	22 to 8
20 to 9	21 to 9	22 to 9	23 to 9
21 to 10	22 to 10	23 to 10	24 to 10
22 to 11	23 to 11	24 to 11	25 to 11
23 to 12	24 to 12	25 to 12	26 to 12
1 to 13	25 to 13	26 to 13	27 to 13
2 to 14	1 to 14	27 to 14	28 to 14
3 to 15	2 to 15	1 to 15	29 to 15
4 to 16	3 to 16	2 to 16	1 to 16
5 to 17	4 to 17	3 to 17	2 to 17
6 to 18	5 to 18	4 to 18	3 to 18
7 to 19	6 to 19	5 to 19	4 to 19
8 to 20	7 to 20	6 to 20	5 to 20
9 to 21	8 to 21	7 to 21	6 to 21
10 to 22	9 to 22	8 to 22	7 to 22
11 to 23	10 to 23	9 to 23	8 to 23
	11 to 24	10 to 24	9 to 24
	12 to 25	11 to 25	10 to 25
		12 to 26	11 to 26
		13 to 27	12 to 27
			13 to 28
			14 to 29

LADIES AND GENTLEMEN'S PROGRESSIVE.

When both sexes participate in the game, and one sex is not opposed to the other, the ladies may sit north and east, the gentlemen west and south; and if the gentlemen move in one direction while the boards are passed in the other, each lady will meet every gentleman, either as partner or opponent. When there is time for a number of sittings, both the ladies and gentlemen may change opponents at successive games, using the individual schedules for multiples of four, and the pair schedules for other numbers, as guides in seating themselves at the commencement of each game. If one sex is opposed to the other, and the number of tables engaged divided by two brings an odd result, such as 6, 10, 14, 18, etc., the game in which the sitting fours and moving fours oppose each other may be played, the ladies, of course, being the sitting fours.

TWO TABLE PROGRESSIVE.

When there are only two tables in a game, and it is desired to establish a pair record, it can be done, in a measure, by placing the teams so that each shall be in succession the co-partner of the other. The following schedule illustrates the movement of the teams:

	TABLE 1.		TABLE 2.	
	N. & S.	E. & W.	N. & S.	E. & W.
Deals 1 to 8.....	1	2	3	4
Deals 9 to 16.....	1	3	4	2
Deals 17 to 24.....	1	4	2	3

Each team figures its gain or loss by comparison with the pair that sits the same way at the other table.

SINGLE TABLE DUPLICATE.

By providing a pack of cards and a tray for every original deal, whist in duplicate can be played by four people. The cards are placed in the proper position in the tray after the hands are played, and when the agreed number of deals have been played, either the trays are turned quarter way round, or the players change seats as may be deemed most expedient, and the players play the hands formerly held by their opponents. The score is counted exactly as in the interclub game, the difference between thirteen and the number of tricks actually taken showing the gain or loss.

If the players are of such calibre that memory plays an important part in the play off, the second half of the game may be postponed until a future sitting, and another game begun. At the second sitting the first game may be played off and a third game begun; at the third sitting the second game played off and the fourth begun, and so on. This, of course, requires two sets of packs and trays.

It will be found harder to remember the cards if the players change partners after every four, six or eight hands, and this will further add interest to the

game by affording an individual record. Players may change partners and positions by the following schedule:

	N.	S.	E.	W.
Deals 1 to 4, 6 or 8.....	1	2	3	4
Deals 5 to 8, 7 to 12 or 9 to 16.....	1	3	4	2
Deals 9 to 12, 13 to 18 or 17 to 24....	1	4	2	3

Players should not try to memorize the location of cards so as to take advantage of their mnemonic ability in the play off. It may help them to win mnemonic games, but it will not improve their whist playing; in fact, experience has proven that players who cultivate their memories for this style of game become firm believers in "shots" and irregular plays, and when they come to take part in a team-of-four or progressive pair game, in which the faculty they have so assiduously cultivated is of absolutely no use, they find themselves at considerable disadvantage.

INDIVIDUAL SCHEDULES.

The following paper is from the pen of Mr. W. H. Whitfeld, of Cambridge, England, who needs no introduction to the whist players of America. His biography appeared in "Whist" of February, 1894, and many double dummy whist problems and other contributions by him have adorned the pages of that journal both before and since that date:

Some eighteen months ago the problem of the arrangement of whist players for a tournament was brought to my notice by Mr. Schwarz and Mr. Mitchell. Since I have had no experience in duplicate whist, and have never entered for any form of whist tournament, I was little concerned with the question considered practically; to me it was only an interesting mathematical puzzle. It is from this point of view that I will make some remarks on the question, explaining briefly how a solution was arrived at for the different cases.

In all the methods of arrangement (except that for 48 players) the main principle is the same. The arrangement for successive days is formed from that for the first day by the players moving in cyclical order. No. 1's seat on the first day will be occupied by No. 2 on the second day; No. 2's seat will be occupied by No. 3; No. 3's seat will be occupied by No. 4, and so on. One player alone remains in the same seat, which he retains throughout the tournament. This player I have denoted by the highest number, No. 36 in the case of 36 players; this makes the solutions appear neater than making him No. 1. The arrangement for the third day is formed from the second in a similar manner. When the members reach the top they begin again with No. 1; e. g., in the case of 36 players, No. 35 being succeeded by No. 1.

How it is ensured that all the required conditions are fulfilled is best shown by taking an example. I will take the case, of 36 players the solution of which is one of the most symmetrical.

At the first table on the first day the two players, Nos. 1 and 34, are in partnership ; these two numbers differ by 33. On the second day their seats will be occupied by Nos. 2 and 35, which also differ by 33. On the third day their seats will be occupied by Nos. 3 and 1, which differ by 2 ($= 35 - 33$). During the tournament all numbers that differ by 2 or by the complementary number 33 will come into partnership in the places of Nos. 1 and 34 at the first table. Similarly all the numbers which differ by 4 or by its complementary number, 31, will come into partnership in the places of Nos. 2 and 33 at the next table. At the nine tables there are eighteen partnerships, 17 of which, it should be noted, are represented in the difference of the numbers of each pair of partners by the numbers 1-17 (or their complements), each occurring once only, the 18th partnership being that of the fixed player with each of the other players in turn. It is thus seen that during the 35 days each player will play once, and only once, with every other player as partner.

In the same way, if we examine the cases of opposition, we shall find that the differences of the numbers belonging to players which are opposed to each other are represented by the numbers 1-17 (or their complements), each occurring twice. Thus it is ensured that in the course of the tournament any two given players will twice be opposed to each other.

It will be noticed that in the solution for the case of 36 players there is a good deal of symmetry. No. 1 plays with his complementary number, No. 34. Their adversaries are found by doubling these numbers respectively, subtracting 35 when the number exceeds 35. Doubling these numbers again we get the first pair of partners at the second table. Doubling again we obtain their adversaries, and so on for six of the tables. The reason why a symmetrical arrangement is possible, satisfying the conditions, can be briefly sketched.

If we take a number less than 35 and prime to it, and continually double it (in fact, instead of doubling, we might multiply it by any

number prime to 35), subtracting 35 when the result exceeds 35, we get a series of numbers which, after a certain time, will repeat itself; thus, for instance, we can obtain the series of 12 numbers 1, 2, 4, 8, 16, 32, 29, 23, 11, 22, 9, 18. Similarly, the 12 numbers, 3, 6, 12, 24, 13, 26, 17, 34, 33, 31, 27, 19, form a recurring series. These two series include all the numbers less than 35, except the multiples of 5 and 7. It may be remarked that the numbers of one series are complementary to the numbers of the other series. If, instead of 2, we had multiplied by 4, we should have obtained four series, each composed of six numbers. In general, however we proceed, we shall find the same number of term in each series.

Now if we form one table of four numbers and multiply continually each number of it by some multiplier so as to form successive tables, not only do the numbers occur in a definite series, but also the difference of any two numbers will occur in a definite order, since, when we multiply two numbers by a certain multiplier, the difference of the two numbers will also be multiplied by the same multiplier. The problem, therefore, reduces to one of choosing our initial table so that the four series of numbers derived from each of the numbers denoting the players may not overlap, and likewise that the series of numbers denoting the differences of partners and opponents may not clash. We avoid two derived numbers clashing by seeing that the initial numbers belong to different series, or that they belong to different parts of the same series, or, in some cases, we can manage it by making one an odd and the other an even term of the same series. In most cases in which the number of days is not a prime number this gives little trouble. To return to the case of 36 players, after we have arranged the tables for those numbers that compose our two series, there remain the multiples of 5 and 7. The multiples of 7, excluding 35 itself, make up a table by themselves, the differences of the numbers being, of course, also multiples of 7. The multiples of 5, together with 35 and the fixed number, 36, can without much difficulty be arranged into two tables, the work being just the same as arranging a tournament for eight players, 1-8, and then multiplying the numbers of all the movable players by 5.

A similar method of solution can be applied to nearly all questions in which we do not obtain a prime number by subtracting unity from the number of players ; but in other cases, except in the case of 12, it cannot be applied. The difficulty is that a table has to be formed consisting of the fixed number (36 in the above case), the highest of the movable numbers (35 itself, which belongs to no series), and two other numbers. Unless there are some numbers which, not being prime to the highest number do not belong to the ordinary series, we have to take two numbers from the series to make up our tables. This makes a discontinuity in our series which cannot, in most cases, be surmounted.

In these cases there is no short road to success. To show the more tedious method that had to be employed, I will take the first problem that I attempted, that for 20 players.

The difference of any two of the numbers 1-19 may be any of the numbers 1-9, or their complements, that is their defect from 19. My first task was to arrange the 27 quantities formed by taking the numbers 1-9 each three times over into four sets of six each and one set of three ; each set of six must be so related to each other as to be capable of representing the differences at one table, *e. g.*, 2, 3, 7, 8, 5, 10, would be such a set, and would represent the differences at the table formed of the numbers 1, 4, 9, 11 ; the set of three is to represent the differences of the three players who play at the same table with the fixed player.

Having arranged our sets, our next step is to decide which numbers in each set are to be the difference of partners. At each table there are three ways of arranging partners. Thus, at the table 1, 4, 9, 11, the partnerships can be represented by any of the three pairs of numbers 3, 2 or 8, 7 or 5, 10. At the five tables we have to arrange the partners so that differences in their numbers shall be represented by the nine numbers 1-9, each occurring once. In most cases it will be found that this is impossible. We must then proceed to arrange our sets differently until we find an arrangement with which it is possible.

After this the labor comes. When we have determined the form of each table in terms of the differences of the numbers, it is like a Chinese puzzle fitting them to the numbers. When 1, 4, 9, 11, does not fit in, we try 2, 5, 10, 12, which is the same table moved on a step; then we move it a step more, afterwards reversing it so that it becomes 1, 3, 8, 11, the differences occurring in reverse order. When we have fitted that table in, we proceed to fit the next in if we can. When we fail, we have to alter the previous arrangement of tables again. When we succeed, we must proceed to fit in another table until (as is generally the final result) we have determined that there is no possible way of arranging the tables, and we have to recommence the problem absolutely from the beginning. A great number of failures were experienced and the problem took a long time working out.

The cases of 8, 12 and 16 players are very simple and present no difficulty whatever; solutions have been worked out independently by a large number of people. The method described above was applied by myself to the cases of 20, 24 and 28 players. The question of 32 players, since it had already been solved before my attention was called to the subject, I did not attempt. I do not know by what method it was arrived at. I should have thought it probably quite as hard as the three cases, 20, 24, 28. Neat solutions, more or less regular, are possible for 36, 40, 52, 56, 64, 100, and, probably, also for 76, 88, 92, 96, &c.

A tournament for 48 players can be arranged by a method due to Professor Moore, by which if a solution can be found for a given number of players, a solution can be found for a number four times as great.

With other numbers, the difficulty of solution would probably be so great, and the practical value so small, that it is not worth while attempting to find an arrangement.

I enclose a system of working a tournament so that each pair may play against every other pair. I only send the scheme for 4, 6, 7, 8, 9 and 10 tables. (See page 67.) It is quite easy to make up similar schemes for 12, 15 or 16 tables (in fact, whenever the number

of hands to be played is a prime number) In the case of 5 tables a scheme of the kind is impossible.

An explanation of the system for the case of four tables follows: The movement of the players is the same as usual—E. & W. move one way, N. & S. the other, till they get to the end. At one of the ends one pair sits fixed and immovable. When they get to the end the players change their points of the compass, N. & S. becoming E. & W., or *vice versa*. Seven deals have to be played at the four tables, consequently some of the trays are unused part of the time. At the first table No. 1 deal is played first; No. 1 deal is then passed to the 4th table. No. 4 deal is received from the 3d table, but it is not played at once; it is placed under trays 2 and 3, the 2d deal being played. The deals are played in consecutive order at each table, and from this reason errors can soon be discovered by the man in charge, who ought to check off the deal being played at each table after each change. If left to themselves entirely the players would confuse the hands, since all the players except one pair change tables. In ordinary progressive pairs the N. & S. pair remaining throughout at one table keep things right, since they know what deal comes next, which table it comes from, etc.

W. H. WHITFELD.

Formulas for 8, 12 and 16 were published in "Whist" of January, 1892, by Mr. A. G. Safford, of Washington, D. C., who was the first in the field with solutions of problems of this nature, but until Mr. W. H. Whitfeld came to the rescue in 1895, I was unable to obtain a formula for any number higher than 16, with the exception of 32. The latter I obtained in the following manner. Mr. Safford had told me that if I numbered the players from 1 up, placing 1 & 2 vs. 3 & 4, 5 & 6 vs. 7 & 8, 9 & 10 vs. 11 & 12, etc., at successive tables for the first game, and

for the second game placed them in numerical order down the north seats at the successive tables, back along the south seats, down again along the east or west seats and back again to the first table along the west or east seats, and make the players take a similar course after every change, that I could work out a formula. I went to work on the idea, but after countless experiments, found that it would only work for 8, 16 and 32, and it is because I found it to work for 32 that Mr. Whitfeld has not given us a solution for this number. I will try to explain how I got the formula from Mr. Safford's instructions.

For the opening game the players sit as follows :

Table 1.	Table 2.	Table 3.	Table 4.	Table 5.	Table 6.	Table 7.	Table 8.
N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.
1- 2- 3- 4	5- 6- 7- 8	9-10-11-12	13-14-15-16	17-18-19-20	21-22-23-24	25-26-27-28	29-30-31-32

For the second game they sit:

1-16-17-32	2-15-18-31	3-14-19-30	4-13-20-29	5-12-21-28	6-11-22-27	7-10-23-26	8- 9-24-25
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Now if we take these numbers and make them follow the same course as the original numbers did, placing 1, 16, 17, 32, 2, 15, 18, 31 in the successive north seats, 3, 14, 19, 30, 4, 13, 20, 29 back along the south seats, 5, 12, 21, 28, 6, 11, 22, 27 down along the east seats and 7, 10, 23, 26, 8, 9, 24, 25 back along the west seats, and keep on moving the players in that order thirty-one times, we will find that the figures follow each other in the following order :

1- 2-16-29	8-31-24-27	23-22-11-19	21- 6-15-20	28-26-10-14	13- 4-32-25	7-18-12-30	9- 3-17- 5
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Now we want a formula in which the figures will run in rotation, and in order to bring this about we substitute the next number for the numbers we find in the respective positions. That is, we put 3 in the 16th position, 4 in the 29th, 5 in the 8th, 6 in the 31st, 7 in the 24th, 8 in the 27th, 9 in the 23rd, 10 in the 22nd, 11 in the 11th, 12 in the 19th, 13 in the 21st, 14 in the 6th, 15 in the 15th, 16 in the 20th, 17 in the 28th, 18 in the 26th, 19 in the 10th, 20 in the 14th, 21 in the 13th, 22 in the 4th, 23 in the 32nd, 24 in the 25th, 25 in the 7th, 26 in the 18th, 27 in the 12th, 28 in the 30th, 29 in the 9th, 30 in the 3rd, 31 in the 17th and 32 in the 5th and our task is accomplished.

1- 2-30-22|32-14-25- 5|29-19-11-27|21-20-15- 3|31-26-12-16|13-10- 9- 7|24-18- 8-17| 4-28- 6-23

SCHEDULE FOR EIGHT PLAYERS.

Once With and Twice Against.

GAME.	TABLE I.				TABLE 2.			
	N.	S.	E.	W.	N.	S.	E.	W.
1	1	2	7	3	8	6	5	4
2	1	3	8	4	2	7	6	5
3	1	4	2	5	3	8	7	6
4	1	5	3	6	4	2	8	7
5	1	6	4	7	5	3	2	8
6	1	7	5	8	6	4	3	2
7	1	8	6	2	7	5	4	3

SCHEDULE FOR TWELVE PLAYERS.

Once With and Twice Against.

GAME.	TABLE I.				TABLE 2.				TABLE 3.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
1	1	2	12	5	8	6	10	11	9	3	4	7
2	1	3	2	6	9	7	11	12	10	4	5	8
3	1	4	3	7	10	8	12	2	11	5	6	9
4	1	5	4	8	11	9	2	3	12	6	7	10
5	1	6	5	9	12	10	3	4	2	7	8	11
6	1	7	6	10	2	11	4	5	3	8	9	12
7	1	8	7	11	3	12	5	6	4	9	10	2
8	1	9	8	12	4	2	6	7	5	10	11	3
9	1	10	9	2	5	3	7	8	6	11	12	4
10	1	11	10	3	6	4	8	9	7	12	2	5
11	1	12	11	4	7	5	9	10	8	2	3	6

SCHEDULE FOR SIXTEEN PLAYERS.

Once With and Twice Against.

GAME.	TABLE 1.				TABLE 2.				TABLE 3.				TABLE 4.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
1	1	2	11	9	16	5	6	3	10	4	14	13	8	15	7	12
2	1	3	12	10	2	6	7	4	11	5	15	14	9	16	8	13
3	1	4	13	11	3	7	8	5	12	6	16	15	10	2	9	14
4	1	5	14	12	4	8	9	6	13	7	2	16	11	3	10	15
5	1	6	15	13	5	9	10	7	14	8	3	2	12	4	11	16
6	1	7	16	14	6	10	11	8	15	9	4	3	13	5	12	2
7	1	8	2	15	7	11	12	9	16	10	5	4	14	6	13	3
8	1	9	3	16	8	12	13	10	2	11	6	5	15	7	14	4
9	1	10	4	2	9	13	14	11	3	12	7	6	16	8	15	5
10	1	11	5	3	10	14	15	12	4	13	8	7	2	9	16	6
11	1	12	6	4	11	15	16	13	5	14	9	8	3	10	2	7
12	1	13	7	5	12	16	2	14	6	15	10	9	4	11	3	8
13	1	14	8	6	13	2	3	15	7	16	11	10	5	12	4	9
14	1	15	9	7	14	3	4	16	8	2	12	11	6	13	5	10
15	1	16	10	8	15	4	5	2	9	3	13	12	7	14	6	11

SCHEDULE FOR TWENTY PLAYERS.

Once With and Twice Against.

GAME.	TABLE 1.		TABLE 2.		TABLE 3.		TABLE 4.		TABLE 5.	
	N.	S. E. W.	N.	S. E. W.	N.	S. E. W.	N.	S. E. W.	N.	S. E. W.
1	1	2 9 10	16 19 15 13	4 11 6 14	18 12 20 5	17 7 3 8				
2	1	3 10 11	17 20 16 14	5 12 7 15	19 13 2 6	18 8 4 9				
3	1	4 11 12	18 2 17 15	6 13 8 16	20 14 3 7	19 9 5 10				
4	1	5 12 13	19 3 18 16	7 14 9 17	2 15 4 8	20 10 6 11				
5	1	6 13 14	20 4 19 17	8 15 10 18	3 16 5 9	2 11 7 12				
6	1	7 14 15	2 5 20 18	9 16 11 19	4 17 6 10	3 12 8 13				
7	1	8 15 16	3 6 2 19	10 17 12 20	5 18 7 11	4 13 9 14				
8	1	9 16 17	4 7 3 20	11 18 13 2	6 19 8 12	5 14 10 15				
9	1	10 17 18	5 8 4 2	12 19 14 3	7 20 9 13	6 15 11 16				
10	1	11 18 19	6 9 5 3	13 20 15 4	8 2 10 14	7 16 12 17				
11	1	12 19 20	7 10 6 4	14 2 16 5	9 3 11 15	8 17 13 18				
12	1	13 20 2	8 11 7 5	15 3 17 6	10 4 12 16	9 18 14 19				
13	1	14 2 3	9 12 8 6	16 4 18 7	11 5 13 17	10 19 15 20				
14	1	15 3 4	10 13 9 7	17 5 19 8	12 6 14 18	11 20 16 2				
15	1	16 4 5	11 14 10 8	18 6 20 9	13 7 15 19	12 2 17 3				
16	1	17 5 6	12 15 11 9	19 7 2 10	14 8 16 20	13 3 18 4				
17	1	18 6 7	13 16 12 10	20 8 3 11	15 9 17 2	14 4 19 5				
18	1	19 7 8	14 17 13 11	2 9 4 12	16 10 18 3	15 5 20 6				
19	1	20 8 9	15 18 14 12	3 10 5 13	17 11 19 4	16 6 2 7				

SCHEDULE FOR TWENTY-FOUR PLAYERS.

Once With and Twice Against.

[illegible]

SCHEDULE FOR TWENTY-EIGHT PLAYERS.

Once With and Twice Against.

GAME.	TABLE I.				TABLE 2.				TABLE 3.				TABLE 4.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
1	I	2	24	25	18	7	17	10	19	22	21	11	16	3	5	9
2	I	3	25	26	19	8	18	11	20	23	22	12	17	4	6	10
3	I	4	26	27	20	9	19	12	21	24	23	13	18	5	7	11
4	I	5	27	28	21	10	20	13	22	25	24	14	19	6	8	12
5	I	6	28	2	22	11	21	14	23	26	25	15	20	7	9	13
6	I	7	2	3	23	12	22	15	24	27	26	16	21	8	10	14
7	I	8	3	4	24	13	23	16	25	28	27	17	22	9	11	15
8	I	9	4	5	25	14	24	17	26	2	28	18	23	10	12	16
9	I	10	5	6	26	15	25	18	27	3	2	19	24	11	13	17
10	I	11	6	7	27	16	26	19	28	4	3	20	25	12	14	18
11	I	12	7	8	28	17	27	20	2	5	4	21	26	13	15	19
12	I	13	8	9	2	18	28	21	3	6	5	22	27	14	16	20
13	I	14	9	10	3	19	2	22	4	7	6	23	28	15	17	21
14	I	15	10	11	4	20	3	23	5	8	7	24	2	16	18	22
15	I	16	11	12	5	21	4	24	6	9	8	25	3	17	19	23
16	I	17	12	13	6	22	5	25	7	10	9	26	4	18	20	24
17	I	18	13	14	7	23	6	26	8	11	10	27	5	19	21	25
18	I	19	14	15	8	24	7	27	9	12	11	28	6	20	22	26
19	I	20	15	16	9	25	8	28	10	13	12	2	7	21	23	27
20	I	21	16	17	10	26	9	2	11	14	13	3	8	22	24	28
21	I	22	17	18	11	27	10	3	12	15	14	4	9	23	25	2
22	I	23	18	19	12	28	11	4	13	16	15	5	10	24	26	3
23	I	24	19	20	13	2	12	5	14	17	16	6	11	25	27	4
24	I	25	20	21	14	3	13	6	15	18	17	7	12	26	28	5
25	I	26	21	22	15	4	14	7	16	19	18	8	13	27	2	6
26	I	27	22	23	16	5	15	8	17	20	19	9	14	28	3	7
27	I	28	23	24	17	6	16	9	18	21	20	10	15	2	4	8

SCHEDULE FOR TWENTY-EIGHT PLAYERS.—Continued.

TABLE 5.				TABLE 6.				TABLE 7.				GAME.
N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	
15	20	27	6	23	4	28	13	26	8	14	12	1
16	21	28	7	24	5	2	14	27	9	15	13	2
17	22	2	8	25	6	3	15	28	10	16	14	3
18	23	3	9	26	7	4	16	2	11	17	15	4
19	24	4	10	27	8	5	17	3	12	18	16	5
20	25	5	11	28	9	6	18	4	13	19	17	6
21	26	6	12	2	10	7	19	5	14	20	18	7
22	27	7	13	3	11	8	20	6	15	21	19	8
23	28	8	14	4	12	9	21	7	16	22	20	9
24	29	9	15	5	13	10	22	8	17	23	21	10
25	3	10	16	6	14	11	23	9	18	24	22	11
26	4	11	17	7	15	12	24	10	19	25	23	12
27	5	12	18	8	16	13	25	11	20	26	24	13
28	6	13	19	9	17	14	26	12	21	27	25	14
2	7	14	20	10	18	15	27	13	22	28	26	15
3	8	15	21	11	19	16	28	14	23	2	27	16
4	9	16	22	12	20	17	2	15	24	3	28	17
5	10	17	23	13	21	18	3	16	25	4	2	18
6	11	18	24	14	22	19	4	17	26	5	3	19
7	12	19	25	15	23	20	5	18	27	6	4	20
8	13	20	26	16	24	21	6	19	28	7	5	21
9	14	21	27	17	25	22	7	20	2	8	6	22
10	15	22	28	18	26	23	8	21	3	9	7	23
11	16	23	2	19	27	24	9	22	4	10	8	24
12	17	24	3	20	28	25	10	23	5	11	9	25
13	18	25	4	21	2	26	11	24	6	12	10	26
14	19	26	5	22	3	27	12	25	7	13	11	27

SCHEDULE FOR THIRTY-TWO PLAYERS.

Once With and Twice Against.

GAME.	TABLE 1.				TABLE 2.				TABLE 3.				TABLE 4.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
1	1	2	30	22	32	14	25	5	29	19	11	27	21	20	15	3
2	1	3	31	23	2	15	26	6	30	20	12	28	22	21	16	4
3	1	4	32	24	3	16	27	7	31	21	13	29	23	22	17	5
4	1	5	2	25	4	17	28	8	32	22	14	30	24	23	18	6
5	1	6	3	26	5	18	29	9	2	23	15	31	25	24	19	7
6	1	7	4	27	6	19	30	10	3	24	16	32	26	25	20	8
7	1	8	5	28	7	20	31	11	4	25	17	2	27	26	21	9
8	1	9	6	29	8	21	32	12	5	26	18	3	28	27	22	10
9	1	10	7	30	9	22	2	13	6	27	19	4	29	28	23	11
10	1	11	8	31	10	23	3	14	7	28	20	5	30	29	24	12
11	1	12	9	32	11	24	4	15	8	29	21	6	31	30	25	13
12	1	13	10	2	12	25	5	16	9	30	22	7	32	31	26	14
13	1	14	11	3	13	26	6	17	10	31	23	8	2	32	27	15
14	1	15	12	4	14	27	7	18	11	32	24	9	3	2	28	16
15	1	16	13	5	15	28	8	19	12	2	25	10	4	3	29	17
16	1	17	14	6	16	29	9	20	13	3	26	11	5	4	30	18
17	1	18	15	7	17	30	10	21	14	4	27	12	6	5	31	19
18	1	19	16	8	18	31	11	22	15	5	28	13	7	6	32	20
19	1	20	17	9	19	32	12	23	16	6	29	14	8	7	2	21
20	1	21	18	10	20	2	13	24	17	7	30	15	9	8	3	22
21	1	22	19	11	21	3	14	25	18	8	31	16	10	9	4	23
22	1	23	20	12	22	4	15	26	19	9	32	17	11	10	5	24
23	1	24	21	13	23	5	16	27	20	10	2	18	12	11	6	25
24	1	25	22	14	24	6	17	28	21	11	3	19	13	12	7	26
25	1	26	23	15	25	7	18	29	22	12	4	20	14	13	8	27
26	1	27	24	16	26	8	19	30	23	13	5	21	15	14	9	28
27	1	28	25	17	27	9	20	31	24	14	6	22	16	15	10	29
28	1	29	26	18	28	10	21	32	25	15	7	23	17	16	11	30
29	1	30	27	19	29	11	22	2	26	16	8	24	18	17	12	31
30	1	31	28	20	30	12	23	3	27	17	9	25	19	18	13	32
31	1	32	29	21	31	13	24	4	28	18	10	26	20	19	14	2

SCHEDULE FOR THIRTY-TWO PLAYERS.—Continued.

TABLE 5.				TABLE 6.				TABLE 7.				TABLE 8.				GAME.
N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	
31	26	12	16	13	10	9	7	24	18	8	17	4	28	6	23	1
32	27	13	17	14	11	10	8	25	19	9	18	5	29	7	24	2
2	28	14	18	15	12	11	9	26	20	10	19	6	30	8	25	3
3	29	15	19	16	13	12	10	27	21	11	20	7	31	9	26	4
4	30	16	20	17	14	13	11	28	22	12	21	8	32	10	27	5
5	31	17	21	18	15	14	12	29	23	13	22	9	2	11	28	6
6	32	18	22	19	16	15	13	30	24	14	23	10	3	12	29	7
7	2	19	23	20	17	16	14	31	25	15	24	11	4	13	30	8
8	3	20	24	21	18	17	15	32	26	16	25	12	5	14	31	9
9	4	21	25	22	19	18	16	2	27	17	26	13	6	15	32	10
10	5	22	26	23	20	19	17	3	28	18	27	14	7	16	2	11
11	6	23	27	24	21	20	18	4	29	19	28	15	8	17	3	12
12	7	24	28	25	22	21	19	5	30	20	29	16	9	18	4	13
13	8	25	29	26	23	22	20	6	31	21	30	17	10	19	5	14
14	9	26	30	27	24	23	21	7	32	22	31	18	11	20	6	15
15	10	27	31	28	25	24	22	8	2	23	32	19	12	21	7	16
16	11	28	32	29	26	25	23	9	3	24	2	20	13	22	8	17
17	12	29	2	30	27	26	24	10	4	25	3	21	14	23	9	18
18	13	30	3	31	28	27	25	11	5	26	4	22	15	24	10	19
19	14	31	4	32	29	28	26	12	6	27	5	23	16	25	11	20
20	15	32	5	2	30	29	27	13	7	28	6	24	17	26	12	21
21	16	2	6	3	31	30	28	14	8	29	7	25	18	27	13	22
22	17	3	7	4	32	31	29	15	9	30	8	26	19	28	14	23
23	18	4	8	5	2	32	30	16	10	31	9	27	20	29	15	24
24	19	5	9	6	3	2	31	17	11	32	10	28	21	30	16	25
25	20	6	10	7	4	3	32	18	12	2	11	29	22	31	17	26
26	21	7	11	8	5	4	2	19	13	3	12	30	23	32	18	27
27	22	8	12	9	6	5	3	20	14	4	13	31	24	2	19	28
28	23	9	13	10	7	6	4	21	15	5	14	32	25	3	20	29
29	24	10	14	11	8	7	5	22	16	6	15	2	26	4	21	30
30	25	11	15	12	9	8	6	23	17	7	16	3	27	5	22	31

SCHEDULE FOR THIRTY-SIX PLAYERS.

Once With and Twice Against.

GAME.	TABLE 1.	TABLE 2.	TABLE 3.	TABLE 4.	TABLE 5.
	N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.
1	1 2 32 12	7 17 27 22	6 13 34 20	10 9 36 18	14 5 3 16
2	1 3 33 13	8 18 28 23	7 14 35 21	11 10 2 19	15 6 4 17
3	1 4 34 14	9 19 29 24	8 15 36 22	12 11 3 20	16 7 5 18
4	1 5 35 15	10 20 30 25	9 16 2 23	13 12 4 21	17 8 6 19
5	1 6 36 16	11 21 31 26	10 17 3 24	14 13 5 22	18 9 7 20
6	1 7 2 17	12 22 32 27	11 18 4 25	15 14 6 23	19 10 8 21
7	1 8 3 18	13 23 33 28	12 19 5 26	16 15 7 24	20 11 9 22
8	1 9 4 19	14 24 34 29	13 20 6 27	17 16 8 25	21 12 10 23
9	1 10 5 20	15 25 35 30	14 21 7 28	18 17 9 26	22 13 11 24
10	1 11 6 21	16 26 36 31	15 22 8 29	19 18 10 27	23 14 12 25
11	1 12 7 22	17 27 2 32	16 23 9 30	20 19 11 28	24 15 13 26
12	1 13 8 23	18 28 3 33	17 24 10 31	21 20 12 29	25 16 14 27
13	1 14 9 24	19 29 4 34	18 25 11 32	22 21 13 30	26 17 15 28
14	1 15 10 25	20 30 5 35	19 26 12 33	23 22 14 31	27 18 16 29
15	1 16 11 26	21 31 6 36	20 27 13 34	24 23 15 32	28 19 17 30
16	1 17 12 27	22 32 7 2	21 28 14 35	25 24 16 33	29 20 18 31
17	1 18 13 28	23 33 8 3	22 29 15 36	26 25 17 34	30 21 19 32
18	1 19 14 29	24 34 9 4	23 30 16 2	27 26 18 35	31 22 20 33
19	1 20 15 30	25 35 10 5	24 31 17 3	28 27 19 36	32 23 21 34
20	1 21 16 31	26 36 11 6	25 32 18 4	29 28 20 2	33 24 22 35
21	1 22 17 32	27 2 12 7	26 33 19 5	30 29 21 3	34 25 23 36
22	1 23 18 33	28 3 13 8	27 34 20 6	31 30 22 4	35 26 24 2
23	1 24 19 34	29 4 14 9	28 35 21 7	32 31 23 5	36 27 25 3
24	1 25 20 35	30 5 15 10	29 36 22 8	33 32 24 6	2 28 26 4
25	1 26 21 36	31 6 16 11	30 2 23 9	34 33 25 7	3 29 27 5
26	1 27 22 2	32 7 17 12	31 3 24 10	35 34 26 8	4 30 28 6
27	1 28 23 3	33 8 18 13	32 4 25 11	36 35 27 9	5 31 29 7
28	1 29 24 4	34 9 19 14	33 5 26 12	2 36 28 10	6 32 30 8
29	1 30 25 5	35 10 20 15	34 6 27 13	3 2 29 11	7 33 31 9
30	1 31 26 6	36 11 21 16	35 7 28 14	4 3 30 12	8 34 32 10
31	1 32 27 7	2 12 22 17	36 8 29 15	5 4 31 13	9 35 33 11
32	1 33 28 8	3 13 23 18	2 9 30 16	6 5 32 14	10 36 34 12
33	1 34 29 9	4 14 24 19	3 10 31 17	7 6 33 15	11 2 35 13
34	1 35 30 10	5 15 25 20	4 11 32 18	8 7 34 16	12 3 36 14
35	1 36 31 11	6 16 26 21	5 12 33 19	9 8 35 17	13 4 2 15

SCHEDULE FOR THIRTY-SIX PLAYERS—Continued.

TABLE 6.				TABLE 7.				TABLE 8.				TABLE 9.				GAME.
N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	
15	4	21	33	24	30	8	11	35	19	31	23	29	25	28	26	1
16	5	22	34	25	31	9	12	36	20	32	24	30	26	29	27	2
17	6	23	35	26	32	10	13	2	21	33	25	31	27	30	28	3
18	7	24	36	27	33	11	14	3	22	34	26	32	28	31	29	4
19	8	25	2	28	34	12	15	4	23	35	27	33	29	32	30	5
20	9	26	3	29	35	13	16	5	24	36	28	34	30	33	31	6
21	10	27	4	30	36	14	17	6	25	2	29	35	31	34	32	7
22	11	28	5	31	2	15	18	7	26	3	30	36	32	35	33	8
23	12	29	6	32	3	16	19	8	27	4	31	2	33	36	34	9
24	13	30	7	33	4	17	20	9	28	5	32	3	34	2	35	10
25	14	31	8	34	5	18	21	10	29	6	33	4	35	3	36	11
26	15	32	9	35	6	19	22	11	30	7	34	5	36	4	2	12
27	16	33	10	36	7	20	23	12	31	8	35	6	2	5	3	13
28	17	34	11	2	8	21	24	13	32	9	36	7	3	6	4	14
29	18	35	12	3	9	22	25	14	33	10	2	8	4	7	5	15
30	19	36	13	4	10	23	26	15	34	11	3	9	5	8	6	16
31	20	2	14	5	11	24	27	16	35	12	4	10	6	9	7	17
32	21	3	15	6	12	25	28	17	36	13	5	11	7	10	8	18
33	22	4	16	7	13	26	29	18	2	14	6	12	8	11	9	19
34	23	5	17	8	14	27	30	19	3	15	7	13	9	12	10	20
35	24	6	18	9	15	28	31	20	4	16	8	14	10	13	11	21
36	25	7	19	10	16	29	32	21	5	17	9	15	11	14	12	22
2	26	8	20	11	17	30	33	22	6	18	10	16	12	15	13	23
3	27	9	21	12	18	31	34	23	7	19	11	17	13	16	14	24
4	28	10	22	13	19	32	35	24	8	20	12	18	14	17	15	25
5	29	11	23	14	20	33	36	25	9	21	13	19	15	18	16	26
6	30	12	24	15	21	34	2	26	10	22	14	20	16	19	17	27
7	31	13	25	16	22	35	3	27	11	23	15	21	17	20	18	28
8	32	14	26	17	23	36	4	28	12	24	16	22	18	21	19	29
9	33	15	27	18	24	2	5	29	13	25	17	23	19	22	20	30
10	34	16	28	19	25	3	6	30	14	26	18	24	20	23	21	31
11	35	17	29	20	26	4	7	31	15	27	19	25	21	24	22	32
12	36	18	30	21	27	5	8	32	16	28	20	26	22	25	23	33
13	2	19	31	22	28	6	9	33	17	29	21	27	23	26	24	34
14	3	20	32	23	29	7	10	34	18	30	22	28	24	27	25	35

SCHEDULE FOR FORTY PLAYERS.

Once With and Twice Against.

GAME.	TABLE 1.	TABLE 2.	TABLE 3.	TABLE 4.	TABLE 5.
	N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.
1	I 2 15 28	18 12 4 13	10 7 3 27	6 24 22 34	20 21 23 9
2	I 3 16 29	19 13 5 14	11 8 4 28	7 25 23 35	21 22 24 10
3	I 4 17 30	20 14 6 15	12 9 5 29	8 26 24 36	22 23 25 11
4	I 5 18 31	21 15 7 16	13 10 6 30	9 27 25 37	23 24 26 12
5	I 6 19 32	22 16 8 17	14 11 7 31	10 28 26 38	24 25 27 13
6	I 7 20 33	23 17 9 18	15 12 8 32	11 29 27 39	25 26 28 14
7	I 8 21 34	24 18 10 19	16 13 9 33	12 30 28 40	26 27 29 15
8	I 9 22 35	25 19 11 20	17 14 10 34	13 31 29 2	27 28 30 16
9	I 10 23 36	26 20 12 21	18 15 11 35	14 32 30 3	28 29 31 17
10	I 11 24 37	27 21 13 22	19 16 12 36	15 33 31 4	29 30 32 18
11	I 12 25 38	28 22 14 23	20 17 13 37	16 34 32 5	30 31 33 19
12	I 13 26 39	29 23 15 24	21 18 14 38	17 35 33 6	31 32 34 20
13	I 14 27 40	30 24 16 25	22 19 15 39	18 36 34 7	32 33 35 21
14	I 15 28 2	31 25 17 26	23 20 16 40	19 37 35 8	33 34 36 22
15	I 16 29 3	32 26 18 27	24 21 17 2	20 38 36 9	34 35 37 23
16	I 17 30 4	33 27 19 28	25 22 18 3	21 39 37 10	35 36 38 24
17	I 18 31 5	34 28 20 29	26 23 19 4	22 40 38 11	36 37 39 25
18	I 19 32 6	35 29 21 30	27 24 20 5	23 2 39 12	37 38 40 26
19	I 20 33 7	36 30 22 31	28 25 21 6	24 3 40 13	38 39 2 27
20	I 21 34 8	37 31 23 32	29 26 22 7	25 4 2 14	39 40 3 28
21	I 22 35 9	38 32 24 33	30 27 23 8	26 5 3 15	40 2 4 29
22	I 23 36 10	39 33 25 34	31 28 24 9	27 6 4 16	2 3 5 30
23	I 24 37 11	40 34 26 35	32 29 25 10	28 7 5 17	3 4 6 31
24	I 25 38 12	2 35 27 36	33 30 26 11	29 8 6 18	4 5 7 32
25	I 26 39 13	3 36 28 37	34 31 27 12	30 9 7 19	5 6 8 33
26	I 27 40 14	4 37 29 38	35 32 28 13	31 10 8 20	6 7 9 34
27	I 28 2 15	5 38 30 39	36 33 29 14	32 11 9 21	7 8 10 35
28	I 29 3 16	6 39 31 40	37 34 30 15	33 12 10 22	8 9 11 36
29	I 30 4 17	7 40 32 2	38 35 31 16	34 13 11 23	9 10 12 37
30	I 31 5 18	8 2 33 3	39 36 32 17	35 14 12 24	10 11 13 38
31	I 32 6 19	9 3 34 4	40 37 33 18	36 15 13 25	11 12 14 39
32	I 33 7 20	10 4 35 5	2 38 34 19	37 16 14 26	12 13 15 40
33	I 34 8 21	11 5 36 6	3 39 35 20	38 17 15 27	13 14 16 2
34	I 35 9 22	12 6 37 7	4 40 36 21	39 18 16 28	14 15 17 3
35	I 36 10 23	13 7 38 8	5 2 37 22	40 19 17 29	15 16 18 4
36	I 37 11 24	14 8 39 9	6 3 38 23	2 20 18 30	16 17 19 5
37	I 38 12 25	15 9 40 10	7 4 39 24	3 21 19 31	17 18 20 6
38	I 39 13 26	16 10 2 11	8 5 40 25	4 22 20 32	18 19 21 7
39	I 40 14 27	17 11 3 12	9 6 2 26	5 23 21 33	19 20 22 8

SCHEDULE FOR FORTY PLAYERS.—Continued.

TABLE 6.	TABLE 7.	TABLE 8.	TABLE 9.	TABLE 10.	GAME.
N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.	N. S. E. W.	
11 31 32 25	26 36 17 33	14 19 29 37	8 30 35 39	5 16 38 40	1
12 32 33 26	27 37 18 34	15 20 30 38	9 31 36 40	6 17 39 2	2
13 33 34 27	28 38 19 35	16 21 31 39	10 32 37 2	7 18 40 3	3
14 34 35 28	29 39 20 36	17 22 32 40	11 33 38 3	8 19 2 4	4
15 35 36 29	30 40 21 37	18 23 33 2	12 34 39 4	9 20 3 5	5
16 36 37 30	31 2 22 38	19 24 34 3	13 35 40 5	10 21 4 6	6
17 37 38 31	32 3 23 39	20 25 35 4	14 36 2 6	11 22 5 7	7
18 38 39 32	33 4 24 40	21 26 36 5	15 37 3 7	12 23 6 8	8
19 39 40 33	34 5 25 2	22 27 37 6	16 38 4 8	13 24 7 9	9
20 40 2 34	35 6 26 3	23 28 38 7	17 39 5 9	14 25 8 10	10
21 2 3 35	36 7 27 4	24 29 39 8	18 40 6 10	15 26 9 11	11
22 3 4 36	37 8 28 5	25 30 40 9	19 2 7 11	16 27 10 12	12
23 4 5 37	38 9 29 6	26 31 2 10	20 3 8 12	17 28 11 13	13
24 5 6 38	39 10 30 7	27 32 3 11	21 4 9 13	18 29 12 14	14
25 6 7 39	40 11 31 8	28 33 4 12	22 5 10 14	19 30 13 15	15
26 7 8 40	2 12 32 9	29 34 5 13	23 6 11 15	20 31 14 16	16
27 8 9 2	3 13 33 10	30 35 6 14	24 7 12 16	21 32 15 17	17
28 9 10 3	4 14 34 11	31 36 7 15	25 8 13 17	22 33 16 18	18
29 10 11 4	5 15 35 12	32 37 8 16	26 9 14 18	23 34 17 19	19
30 11 12 5	6 16 36 13	33 38 9 17	27 10 15 19	24 35 18 20	20
31 12 13 6	7 17 37 14	34 39 10 18	28 11 16 20	25 36 19 21	21
32 13 14 7	8 18 38 15	35 40 11 19	29 12 17 21	26 37 20 22	22
33 14 15 8	9 19 39 16	36 2 12 20	30 13 18 22	27 38 21 23	23
34 15 16 9	10 20 40 17	37 3 13 21	31 14 19 23	28 39 22 24	24
35 16 17 10	11 21 2 18	38 4 14 22	32 15 20 24	29 40 23 25	25
36 17 18 11	12 22 3 19	39 5 15 23	33 16 21 25	30 2 24 26	26
37 18 19 12	13 23 4 20	40 6 16 24	34 17 22 26	31 3 25 27	27
38 19 20 13	14 24 5 21	2 7 17 25	35 18 23 27	32 4 26 28	28
39 20 21 14	15 25 6 22	3 8 18 26	36 19 24 28	33 5 27 29	29
40 21 22 15	16 26 7 23	4 9 19 27	37 20 25 29	34 6 28 30	30
2 22 23 16	17 27 8 24	5 10 20 28	38 21 26 30	35 7 29 31	31
3 23 24 17	18 28 9 25	6 11 21 29	39 22 27 31	36 8 30 32	32
4 24 25 18	19 29 10 26	7 12 22 30	40 23 28 32	37 9 31 33	33
5 25 26 19	20 30 11 27	8 13 23 31	2 24 29 33	38 10 32 34	34
6 26 27 20	21 31 12 28	9 14 24 32	3 25 30 34	39 11 33 35	35
7 27 28 21	22 32 13 29	10 15 25 33	4 26 31 35	40 12 34 36	36
8 28 29 22	23 33 14 30	11 16 26 34	5 27 32 36	2 13 35 37	37
9 29 30 23	24 34 15 31	12 17 27 35	6 28 33 37	3 14 36 38	38
10 30 31 24	25 35 16 32	13 18 28 36	7 29 34 38	4 15 37 39	39

SCHEDULE FOR FORTY-EIGHT PLAYERS.

Once With and Twice Against.

(FIRST LINE ONLY)

		N.	S.	E.	W
Table	1	1	2	19	32
"	2	7	44	42	9
"	3	11	40	27	24
"	4	37	14	47	4
"	5	18	33	36	15
"	6	12	39	35	16
"	7	20	31	5	46
"	8	25	26	45	6
"	9	34	17	23	28
"	10	22	29	21	30
"	11	38	13	8	13
"	12	48	3	41	10

For the succeeding lines add one to each figure, except No. 1, which remains constant, and No. 48, which becomes No. 2.

[The above schedule is not a perfect one as to opposition. In the subtraction of corners 17 occurs four times and 22 not at all, so that each player will play four times against the player whose difference is 17, and will not play at all against the player whose difference is 22.]

Professor E. H. Moore, of the University of Chicago, who invented the $4 \times n$ method mentioned by Mr. Whitfeld, thus explains his process:

"My work on whist-tournament arrangements appeared as the third part of my paper, 'Tactical

Memoranda, I—III,' in the American Journal of Mathematics (vol. 18, pp. 264–303, 1896, Baltimore, Md.). Here I shall clearly state the three results.

"In § 7, by the use of the theory of primitive roots for a prime modulus p , a direct non-tentative method is given for constructing a *cyclic* tournament arrangement for

$$m = 3p + 1 \text{ players,}$$

where p is *any* prime number of the form

$$p = 4s + 1.$$

This covers an infinitude of cases,

$$m = 16, 40, 52, 64, 88, 112, 124, 160, 184, \dots$$

"I introduce a new notion—'*triple*-whist-tournament arrangement.' In a triple-arrangement at every table the oppositions N E, S W are treated as coördinate, and the oppositions N W, S E are treated as coördinate (just as the pairings N S, E W are treated as coördinate in the ordinary arrangement) and every player is required to be opposed to every other player *once in each way*. Thus, for instance, the cyclic arrangement for four players, *abcd*, *acdb*, *adbc*, is triple, and all my cyclic arrangements just referred to are triple.

"Triple-arrangements are of special importance because of the 'composition' methods of §§ 9 and 11. If we know *any* triple-arrangement for m players and *any* ordinary arrangement for n players, then by the direct non-tentative process of § 11 we can construct an arrangement for $m \times n$ players; if both known

arrangements are triple, the process of § 9 yields a triple-arrangement for $m \times n$ players. Thus, from the known arrangements for 4 and 16 players I constructed for the Denver Whist Club an arrangement for 64 players. Again, using Mr. Whitfeld's ordinary arrangement for 100 players and my triple-arrangements for 16 and 160 players, we can construct two ordinary arrangements for 16×100 and 160×100 players, and one triple-arrangement for 16×160 players.

ELIAKIM HASTINGS MOORE."

SCHEME FOR FORTY-EIGHT PLAYERS (4×12).

	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
First 11 Games.	11	12	1	8	3	2	5	7	9	6	4	10
	23	24	13	20	15	14	17	19	21	18	16	22
	35	36	25	32	27	26	29	31	33	30	28	34
	47	48	37	44	39	38	41	43	45	42	40	46
Second 11 Games.	11	24	25	44	3	14	29	43	9	18	28	46
	23	12	37	32	15	2	41	31	21	6	40	34
	35	48	1	20	27	38	5	19	33	42	4	22
	47	36	13	8	39	25	17	7	45	30	16	10
Third 11 Games.	11	48	13	32	3	38	17	31	9	42	16	34
	47	12	25	20	39	2	29	19	45	6	28	22
	23	36	1	44	15	26	5	43	21	30	4	46
	35	24	37	8	27	14	41	7	33	18	40	10
Fourth 11 Games.	11	36	37	20	3	26	41	29	9	30	40	22
	35	12	13	44	27	2	17	43	33	6	16	46
	47	24	1	32	39	14	5	31	45	18	4	34
	23	48	25	8	15	38	29	7	21	42	28	10
Last 3 Games.	1	13	25	37	2	14	26	38	3	15	27	39
	4	16	28	40	5	17	29	41	6	18	30	42
	7	19	31	43	8	20	32	44	9	21	33	45
	10	22	34	36	11	23	35	47	12	24	36	48

Each four in the last three games remain at same table changing partners.

The 48 players 1, 2, —, 48 form four companies 1, 2, —, 12; 13, 14, —, 24; 25, 26, —, 36; 37, 38, —, 48.

For each set of 11 games only the first game is given, the other 10 being obtained by letting the players 12, 24, 36, 48 of each company remain stationary and the other 11 players of each company advance for each new game one place cyclically, *i. e.*, for first company 1 is replaced by 2, —, 10 by 11, 11 by 1, and for fourth company 37 by 38, 46 by 47, 47 by 37.

SCHEDULE FOR FIFTY-TWO PLAYERS.

Once With and Twice Against.

(FIRST LINE ONLY.)

		N.	S.	E.	W.
Table	1	1	2	19	36
"	2	10	28	12	9
"	3	6	15	7	31
"	4	4	34	30	42
"	5	3	18	16	22
"	6	33	23	51	26
"	7	43	38	52	14
"	8	48	20	27	8
"	9	25	11	40	5
"	10	39	32	21	29
"	11	46	17	37	41
"	12	24	35	45	47
"	13	13	44	49	50

For the succeeding lines add one to each figure, except No. 1, which remains constant, and No. 52, which becomes No. 2.

SCHEDULE FOR FIFTY-SIX PLAYERS.

Once With and Twice Against.

(FIRST LINE ONLY.)

		N.	S.	E.	W.
Table	1	1	2	42	47
"	2	7	37	12	27
"	3	17	52	22	32
"	4	18	51	29	40
"	5	21	48	35	34
"	6	38	31	14	55
"	7	56	13	50	19
"	8	33	36	4	10
"	9	41	28	20	49
"	10	43	26	24	45
"	11	16	53	25	44
"	12	23	46	39	30
"	13	11	3	15	54
"	14	8	6	9	5

For the succeeding lines add one to each figure, except No. 1, which remains constant, and No. 56, which becomes No. 2.

SCHEDULE FOR SIXTY-FOUR PLAYERS.

Once With and Twice Against.

(FIRST LINE ONLY.)

		N.	S.	E.	W.
Table	1	1	2	23	44
"	2	38	29	30	37
"	3	20	47	16	51
"	4	11	56	9	58
"	5	43	13	7	18
"	6	54	39	36	10
"	7	28	52	19	6
"	8	15	27	42	4
"	9	40	46	22	3
"	10	21	24	12	34
"	11	55	26	33	32
"	12	60	14	49	17
"	13	31	8	57	41
"	14	48	5	61	53
"	15	25	35	63	59
"	16	45	50	64	62

For the succeeding lines add one to each figure, except No. 1, which remains constant, and No. 64, which becomes No. 2.

FORMULAS AS PREPARED BY MR. W. H. WHITFELD.

[In order to make these schedules conform to the other schedules used in this treatise, I have taken the liberty of transposing the figures given by Mr. Whitfeld, so that the player who sits in the fixed position all through the tournament is No. 1, and so that No. 1 will play in regular succession with 2, 3, 4, &c., but for the benefit of those who are interested in the mathematical problem, Mr. Whitfeld's figures are also given.]

12 PLAYERS.	20 PLAYERS.	24 PLAYERS.	28 PLAYERS.	36 PLAYERS.
11 12 1 8	5 6 13 20	1 4 8 13	1 13 10 18	1 34 2 33
3 2 5 7	7 12 8 17	2 10 12 18	8 14 21 26	4 31 8 27
9 6 4 10	10 14 3 16	17 19 14 23	2 27 6 15	16 19 32 3
	1 9 4 11	6 7 9 20	5 9 11 25	29 6 23 12
	2 19 15 18	11 15 3 16	3 20 19 22	11 24 22 13
		5 21 22 24	4 24 7 23	9 26 18 17
			16 17 12 28	7 28 14 21
				5 35 10 20
				15 30 25 36
40 PLAYERS.	48 PLAYERS.	52 PLAYERS.	56 PLAYERS.	64 PLAYERS.
1 3 25 36	1 46 8 39	3 4 9 40	1 54 2 53	3 1 15 20
2 6 11 33	11 36 41 6	6 8 18 29	4 51 8 47	6 2 30 40
4 12 22 27	27 20 28 19	12 16 36 7	16 39 32 23	12 4 60 17
8 24 5 15	15 32 26 21	24 32 21 14	9 46 18 37	24 8 57 34
16 9 10 30	24 23 4 43	48 13 42 28	36 19 17 38	48 16 51 5
32 18 20 21	29 18 44 3	45 26 33 5	34 21 13 42	33 32 39 10
7 19 17 35	37 10 14 33	39 1 15 10	26 29 52 3	31 53 41 44
14 38 34 31	31 16 13 34	27 2 30 20	49 6 43 12	62 43 19 25
28 37 29 23	12 35 4 45	31 37 35 50	31 24 7 48	61 23 38 50
13 26 39 40	38 9 22 25	11 23 19 49	14 41 28 27	59 46 13 37
	42 5 7 40	22 46 38 47	11 44 22 33	55 29 26 11
	48 47 30 17	44 41 25 43	10 45 30 40	47 58 52 22
		17 34 51 52	25 55 35 50	7 56 9 54
			5 56 15 20	14 49 18 45
				28 35 36 27
				21 42 63 64

WHITFIELD PROGRESSIVE DUPLICATE.

Each Pair Against Every Other Pair.

FOUR TABLES.

No. of Table.	N. & S. Pair at Start.	E. & W. Pair at Start.	No. of 1st Deal at Table.	Nos. of Trays Placed at Table.	No. of Table Tray Passed To.	No. of Table Tray Received From.
1	X	1	1	1-2-3	4	3
2	7	2	6	6	3	4
3	6	3	4	4-5	1	2
4	5	4	7	7	2	1

SIX TABLES.

1	X	1	1	1-2	5	4
2	11	2	9	9-10	6	5
3	10	3	7	7	4	6
4	9	4	3	3-4-5-6	1	3
5	8	5	11	11	2	1
6	7	6	8	8	3	2

SEVEN TABLES.

1	X	1	1	1-2	4	6
2	13	2	5	5	6	7
3	12	3	7	7-8-9-10	7	5
4	11	4	13	13	5	1
5	10	5	11	11-12	3	4
6	9	6	3	3-4	1	2
7	8	7	6	6	2	3

No. of Table.	N. & S. Pair at Start.	E. & W. Pair at Start	No. of 1st Deal at Table.	Nos of Trays Placed at Table.	No. of Table Tray Passed To.	No. of Table Tray Received From.
EIGHT TABLES.						
1	x	1	1	1	4	8
2	15	2	5	5	5	7
3	14	3	13	13-14	8	6
4	13	4	2	2	7	1
5	12	5	6	6-7	6	2
6	11	6	8	8-9-10-11-12	3	5
7	10	7	3	3-4	2	4
8	9	8	15	15	1	3
NINE TABLES.						
1	x	1	1	1	9	3
2	17	2	13	13-14-15-16	8	9
3	16	3	2	2-3	1	7
4	15	4	10	10	5	6
5	14	5	7	7-8-9	7	4
6	13	6	11	11	4	8
7	12	7	4	4-5-6	3	5
8	11	8	12	12	6	2
9	10	9	17	17	2	1
TEN TABLES.						
1	x	1	1	1	2	10
2	19	2	18	18-19	9	1
3	18	3	5	5	10	8
4	17	4	7	7	8	7
5	16	5	12	12-13-14-15-16	6	9
6	15	6	10	10-11	7	5
7	14	7	8	8-9	4	6
8	13	8	6	6	3	4
9	12	9	17	17	5	2
10	11	10	2	2-3-4	1	3

SCHEDULES FOR LADIES AND GENTLEMEN.

Ladies once with each gentleman, once against each lady; gentlemen once with each lady, once against each gentleman. The ladies sit N. and E., gentlemen S. and W.

FOUR LADIES AND FOUR GENTLEMEN.

GAME.	TABLE 1.				TABLE 2.			
	N.	S.	E.	W.	N.	S.	E.	W.
1	1	4	2	3	3	2	4	1
2	1	2	3	4	4	3	2	1
3	1	3	4	2	2	4	3	1
4	1	1	2	2	3	3	4	4

EIGHT LADIES AND EIGHT GENTLEMEN.

GAME.	TABLE 1.				TABLE 2.				TABLE 3.				TABLE 4.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
1	1	7	2	6	5	4	3	8	8	3	4	5	6	2	7	1
2	1	8	3	7	6	5	4	2	2	4	5	6	7	3	8	1
3	1	2	4	8	7	6	5	3	3	5	6	7	8	4	2	1
4	1	3	5	2	8	7	6	4	4	6	7	8	2	5	3	1
5	1	4	6	3	2	8	7	5	5	7	8	2	3	6	4	1
6	1	5	7	4	3	2	8	6	6	8	2	3	4	7	5	1
7	1	6	8	5	4	3	2	7	7	2	3	4	5	8	6	1
8	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8

SIXTEEN LADIES AND

GAME.	TABLE 1.				TABLE 2.				TABLE 3.				TABLE 4.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
1	1	12	2	7	11	15	9	8	16	13	5	14	6	4	3	10
2	1	13	3	8	12	16	10	9	2	14	6	15	7	5	4	11
3	1	14	4	9	13	2	11	10	3	15	7	16	8	6	5	12
4	1	15	5	10	14	3	12	11	4	16	8	2	9	7	6	13
5	1	16	6	11	15	4	13	12	5	2	9	3	10	8	7	14
6	1	2	7	12	16	5	14	13	6	3	10	4	11	9	8	15
7	1	3	8	13	2	6	15	14	7	4	11	5	12	10	9	16
8	1	4	9	14	3	7	16	15	8	5	12	6	13	11	10	2
9	1	5	10	15	4	8	2	16	9	6	13	7	14	12	11	3
10	1	6	11	16	5	9	3	2	10	7	14	8	15	13	12	4
11	1	7	12	2	6	10	4	3	11	8	15	9	16	14	13	5
12	1	8	13	3	7	11	5	4	12	9	16	10	2	15	14	6
13	1	9	14	4	8	12	6	5	13	10	2	11	3	16	15	7
14	1	10	15	5	9	13	7	6	14	11	3	12	4	2	16	8
15	1	11	16	6	10	14	8	7	15	12	4	13	5	3	2	9
16	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8

SIXTEEN GENTLEMEN.

TABLE 5.				TABLE 6.				TABLE 7.				TABLE 8.				GAME.
N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	
10	3	4	6	14	5	13	16	8	9	15	11	7	2	12	1	1
11	4	5	7	15	6	14	2	9	10	16	12	8	3	13	1	2
12	5	6	8	16	7	15	3	10	11	2	13	9	4	14	1	3
13	6	7	9	2	8	16	4	11	12	3	14	10	5	15	1	4
14	7	8	10	3	9	2	5	12	13	4	15	11	6	16	1	5
15	8	9	11	4	10	3	6	13	14	5	16	12	7	2	1	6
16	9	10	12	5	11	4	7	14	15	6	2	13	8	3	1	7
2	10	11	13	6	12	5	8	15	16	7	3	14	9	4	1	8
3	11	12	14	7	13	6	9	16	2	8	4	15	10	5	1	9
4	12	13	15	8	14	7	10	2	3	9	5	16	11	6	1	10
5	13	14	16	9	15	8	11	3	4	10	6	2	12	7	1	11
6	14	15	2	10	16	9	12	4	5	11	7	3	13	8	1	12
7	15	16	3	11	2	10	13	5	6	12	8	4	14	9	1	13
8	16	2	4	12	3	11	14	6	7	13	9	5	15	10	1	14
9	2	3	5	13	4	12	15	7	8	14	10	6	16	11	1	15
9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	16

THIRTY-TWO LADIES AND

GAME.	TABLES 1 & 16.				TABLES 2 & 15.				TABLES 3 & 14.				TABLES 4 & 13.			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
	W.	E.	S.	N.	W.	E.	S.	N.	W.	E.	S.	N.	W.	E.	S.	N.
1	I	23	2	6	30	28	22	4	32	17	14	8	25	18	5	24
2	I	24	3	7	31	29	23	5	2	18	15	9	26	19	6	25
3	I	25	4	8	32	30	24	6	3	19	16	10	27	20	7	26
4	I	26	5	9	2	31	25	7	4	20	17	11	28	21	8	27
5	I	27	6	10	3	32	26	8	5	21	18	12	29	22	9	28
6	I	28	7	11	4	2	27	9	6	22	19	13	30	23	10	29
7	I	29	8	12	5	3	28	10	7	23	20	14	31	24	11	30
8	I	30	9	13	6	4	29	11	8	24	21	15	32	25	12	31
9	I	31	10	14	7	5	30	12	9	25	22	16	2	26	13	32
10	I	32	11	15	8	6	31	13	10	26	23	17	3	27	14	2
11	I	2	12	16	9	7	32	14	11	27	24	18	4	28	15	3
12	I	3	13	17	10	8	2	15	12	28	25	19	5	29	16	4
13	I	4	14	18	11	9	3	16	13	29	26	20	6	30	17	5
14	I	5	15	19	12	10	4	17	14	30	27	21	7	31	18	6
15	I	6	16	20	13	11	5	18	15	31	28	22	8	32	19	7
16	I	7	17	21	14	12	6	19	16	32	29	23	9	2	20	8
17	I	8	18	22	15	13	7	20	17	2	30	24	10	3	21	9
18	I	9	19	23	16	14	8	21	18	3	31	25	11	4	22	10
19	I	10	20	24	17	15	9	22	19	4	32	26	12	5	23	11
20	I	11	21	25	18	16	10	23	20	5	2	27	13	6	24	12
21	I	12	22	26	19	17	11	24	21	6	3	28	14	7	25	13
22	I	13	23	27	20	18	12	25	22	7	4	29	15	8	26	14
23	I	14	24	28	21	19	13	26	23	8	5	30	16	9	27	15
24	I	15	25	29	22	20	14	27	24	9	6	31	17	10	28	16
25	I	16	26	30	23	21	15	28	25	10	7	32	18	11	29	17
26	I	17	27	31	24	22	16	29	26	11	8	2	19	12	30	18
27	I	18	28	32	25	23	17	30	27	12	9	3	20	13	31	19
28	I	19	29	2	26	24	18	31	28	13	10	4	21	14	32	20
29	I	20	30	3	27	25	19	32	29	14	11	5	22	15	2	21
30	I	21	31	4	28	26	20	2	30	15	12	6	23	16	3	22
31	I	22	32	5	29	27	21	3	31	16	13	7	24	17	4	23
32	I	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
	32	32	31	31	30	30	29	29	28	28	27	27	26	26	25	25

THIRTY-TWO GENTLEMEN.

TABLES 5 & 12.				TABLES 6 & 11.				TABLES 7 & 10.				TABLES 8 & 9.				GAME.
N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	
W.	E.	S.	N.	W.	E.	S.	N.	W.	E.	S.	N.	W.	E.	S.	N.	
29	7	19	9	11	10	27	13	21	16	20	12	15	26	3	31	1
30	8	20	10	12	11	28	14	22	17	21	13	16	27	4	32	2
31	9	21	11	13	12	29	15	23	18	22	14	17	28	5	2	3
32	10	22	12	14	13	30	16	24	19	23	15	18	29	6	3	4
2	11	23	13	15	14	31	17	25	20	24	16	19	30	7	4	5
3	12	24	14	16	15	32	18	26	21	25	17	20	31	8	5	6
4	13	25	15	17	16	2	19	27	22	26	18	21	32	9	6	7
5	14	26	16	18	17	3	20	28	23	27	19	22	2	10	7	8
6	15	27	17	19	18	4	21	29	24	28	20	23	3	11	8	9
7	16	28	18	20	19	5	22	30	25	29	21	24	4	12	9	10
8	17	29	19	21	20	6	23	31	26	30	22	25	5	13	10	11
9	18	30	20	22	21	7	24	32	27	31	23	26	6	14	11	12
10	19	31	21	23	22	8	25	2	28	32	24	27	7	15	12	13
11	20	32	22	24	23	9	26	3	29	2	25	28	8	16	13	14
12	21	2	23	25	24	10	27	4	30	3	26	29	9	17	14	15
13	22	3	24	26	25	11	28	5	31	4	27	30	10	18	15	16
14	23	4	25	27	26	12	29	6	32	5	28	31	11	19	16	17
15	24	5	26	28	27	13	30	7	2	6	29	32	12	20	17	18
16	25	6	27	29	28	14	31	8	3.	7	30	2	13	21	18	19
17	26	7	28	30	29	15	32	9	4	8	31	3	14	22	19	20
18	27	8	29	31	30	16	2	10	5	9	32	4	15	23	20	21
19	28	9	30	32	31	17	3	11	6	10	2	5	16	24	21	22
20	29	10	31	2	32	18	4	12	7	11	3	6	17	25	22	23
21	30	11	32	3	2	19	5	13	8	12	4	7	18	26	23	24
22	31	12	2	4	3	20	6	14	9	13	5	8	19	27	24	25
23	32	13	3	5	4	21	7	15	10	14	6	9	20	28	25	26
24	2	14	4	6	5	22	8	16	11	15	7	10	21	29	26	27
25	3	15	5	7	6	23	9	17	12	16	8	11	22	30	27	28
26	4	16	6	8	7	24	10	18	13	17	9	12	23	31	28	29
27	5	17	7	9	8	25	11	19	14	18	10	13	24	32	29	30
28	6	18	8	10	9	26	12	20	15	19	11	14	25	2	30	31
9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	32
24	24	23	23	22	22	21	21	20	20	19	19	18	18	17	17	

TEAM SCHEDULES.

Safford's method of placing the players in numerical order down one position and up the other applies to every even number of teams, without changing the numbers of the players to correspond with the previous occupants of the seats; and as there are only two positions in the case of teams, it is a very simple matter writing out the formula for a team schedule. All you have to do is to write "1, 2, 3, then the last number, then 4 and the second last number, then 5 and the third last number, and so on until all your numbers are exhausted," and your formula is made. The succeeding numbers follow each other in the same order as in the individual schedules. For instance, take six teams; the formula would be:

GAME.	TABLE 1.		TABLE 2.		TABLE 3.	
	N.-S.	E.-W.	N.-S.	E.-W.	N.-S.	E.-W.
1	1	2	3	6	4	5
2	1	3	4	2	5	6
3	1	4	5	3	6	2
4	1	5	6	4	2	3
5	1	6	2	5	3	4

Take ten teams and the formula would be:

GAME.	TABLE 1.		TABLE 2.		TABLE 3.		TABLE 4.		TABLE 5.	
	N.-S.	E.-W.	N.-S.	E.-W.	N.-S.	E.-W.	N.-S.	E.-W.	N.-S.	E.-W.
1	1	2	3	10	4	9	5	8	6	7
2	1	3	4	2	5	10	6	9	7	8
3	1	4	5	3	6	2	7	10	8	9
4	1	5	6	4	7	3	8	2	9	10
5	1	6	7	5	8	4	9	3	10	2
6	1	7	8	6	9	5	10	4	2	3
7	1	8	9	7	10	6	2	5	3	4
8	1	9	10	8	2	7	3	6	4	5
9	1	10	2	9	3	8	4	7	5	6

Take fourteen teams and the formula would be:

GAME.	TABLE 1.		TABLE 2.		TABLE 3.		TABLE 4.		TABLE 5.		TABLE 6.		TABLE 7.	
	N.-S.	E.-W.	N.-S.	E.-W.	N.-S.	E.-W.	N.-S.	E.-W.	N.-S.	E.-W.	N.-S.	E.-W.	N.-S.	E.-W.
1	1	2	3	14	4	13	5	12	6	11	7	10	8	9
2	1	3	4	2	5	14	6	13	7	12	8	11	9	10
3	1	4	5	3	6	2	7	14	8	13	9	12	10	11
4	1	5	6	4	7	3	8	2	9	14	10	13	11	12
5	1	6	7	5	8	4	9	3	10	2	11	14	12	13
6	1	7	8	6	9	5	10	4	11	3	12	2	13	14
7	1	8	9	7	10	6	11	5	12	4	13	3	14	2
8	1	9	10	8	11	7	12	6	13	5	14	4	2	3
9	1	10	11	9	12	8	13	7	14	6	2	5	3	4
10	1	11	12	10	13	9	14	8	2	7	3	6	4	5
11	1	12	13	11	14	10	2	9	3	8	4	7	5	6
12	1	13	14	12	2	11	3	10	4	9	5	8	6	7
13	1	14	2	13	3	12	4	11	5	10	6	9	7	8

The above are quite enough to show the process. By following up the numbers it will be found that the teams who start east and west keep moving towards the last table until they get to the foot, they then change over to the north and south seats and move

up towards the first table, and after playing north and south at the second table they go to the east and west seats at the first table, and then down the east and west seats to where they started. Similarly, the teams who start north and south keep moving up towards the first table to No. 2, then down the east and west seats from the first to the last table, and back along the north and south seats to where they started. In their travels they meet the other teams in a regular order. If the first team played against is odd, the next team will be the next higher odd number, then the next higher, and so on until the highest odd number is met, after which the first even number (No. 2) will be the team played against, then the even numbers will be met in succession, until all of them have been exhausted, when No. 3 will be met and the balance of the odd numbers. At any point in the procession where a team's own number would come in, No. 1 will come in to fill up the blank.

It will thus be seen that if players could be depended on to follow directions a schedule would be unnecessary. All that has to be done is to make them change tables in accordance with the movement described in the schedule, and they could seat themselves any way at all for the first game and go ahead. Unfortunately, however, players cannot be depended upon in such a manner, and even if they could a schedule would be necessary to settle the disputes which would arise.

The numbers 6, 10 and 14 were taken to illustrate the team schedule principle, simply because 8, 12 and 16, etc., have already been given among the individual schedules. As the individual schedules equalize the opposition at the other tables better, they should be used for team tournaments when the number is a multiple of four.

Should the number of entries in a tournament be odd, a "bye" can be provided for in the following manner: Use a schedule with one more than the number of entries, and let the players be "bye" whose turn it is to play with the last or extra number. The "bye" will be 3 for the first game, then all the odd numbers in succession, then the even, and lastly No. 1.



APPENDIX I.

LEADS AND INFERENCES OF
MODERN WHIST.

LEADS AND INFERENCES OF MODERN WHIST.

In placing these leads and inferences before the reader it is not considered necessary to preface them with any defence or explanation. The reader is supposed to have arrived at the conclusion that the modern system of leading is the best foundation on which to build scientific play; and it is hoped that the leads and inferences as here given will be found in such comprehensive form as to allow him to master them with a minimum of effort.

In previous works on whist the signs used for King and Knave have been Kg and Kn respectively; but as the index letters on all playing-cards in this country for these denominations are K and J, and it is less confusing to have totally different signs, the letters K and J will be used in the following pages.

The object of the game, of course, is to take as many tricks as possible with the hands dealt to you and your partner. If your cards are not commanding cards at the start, you must endeavor to bring them up to that rank by forcing your adversaries to play the cards they hold which are higher than yours. If you hold the second and third best card of a suit, you lead one of them and get the best out of your way. If you have the third, fourth and fifth best, you have

to clear away the best and second best. If you have only one high card, or two high cards the highest not above the rank of third best, you must look to your partner for assistance, and lead low, trusting to his having the high card necessary to make yours good.

And while you are endeavoring to clear your suit, you must also indicate by a certain arbitrary code of card signals, to be shortly explained, as clearly as may be permissible, the exact nature and extent of your holding. The game of whist is now reduced to such a fine point that experts can locate the balance of the cards sometimes after the fourth or fifth trick, and while it may seem impossible to the beginner that this stage of proficiency can ever be reached, and it is certain that it will be some time before he reaches it, yet it is best that he should start in with the line of play which makes it not only possible, but certain of accomplishment with a fair amount of study and practice.

The principle upon which the modern leads are based is the showing of the number of cards in suit, and the value of them, without in any way endangering their trick-taking power. This is accomplished by the lead of the fourth best card when a low card is led originally, or when low card is led after high second round; by certain arbitrary leads of high cards; and by the leading of either of two or three high indifferent cards second round.* With two high

*Trist, in Harper's Magazine, March, 1891.

indifferent cards, if the first card led did not intimate five in suit, the lead of the higher now indicates only four in suit originally, while the lead of the lower indicates five or more. With three indifferent cards, under like circumstances, the highest indicates four, the intermediate five, and the lowest six or more. If the first card led intimated five or more in suit, the second lead of the higher of two would indicate five only, and of the lower six or more, while the highest of three would indicate five only, the intermediate six only, and the lowest seven or more.

LEADS.

When you have three or more honors in sequence, and five or more cards in the suit, you lead the lowest honor; following with the highest card of the sequence shows a holding of exactly five, with the second card of the sequence six or more: if you have but four cards in the suit you lead the king.

When you have two honors in sequence, one of which is the king, your original lead, if you hold but four of the suit, should be the king; if you hold five or more of the suit, you should lead the other honor.

With ace, queen, knave, you lead the ace, and follow with queen if you hold but four, with knave if you hold five or more. With ace, queen, knave, ten only; lead ace, follow with ten.

With queen, knave, ten; lead ten; follow with queen if you hold but four, with knave if you hold five or more.

TABLE OF ORIGINAL LEADS.

HOLDING.	WITH LEAD.	FOUR FOL.	WITH LEAD.	FIVE FOL.	WITH LEAD.	SIX FOL.
A, K, Q, J.....	K	J	J	A	J	K
A, K, Q.....	K	Q	Q	A	Q	K
*A, K.....	K	..	A	..	..	..
A, Q, J.....	A	Q	A	J	..	..
A, Q, J, 10.....	A	10	..	..	..	..
K, Q, J, 10.....	K	10	..	..	..	..
K, Q, J.....	K	J	J	K	J	Q
†K. Q.....	K	..	†Q	..	..	..
Q, J, 10.....	10	Q	10	J	..	..

When you have not any of the above high-card combinations lead your fourth best card; except with ace and six small, when you lead the ace, and follow with fourth best left in hand; and with A, Q, or A, J, and three or more small, in plain suits, lead ace and follow with fourth best left in hand, especially if weak in trumps and cards of reëntree.

Except, also, with J, 10, 9 and one or more small in trumps, lead J.

Lead from your longest suit.

If you have two suits of equal length, select the stronger.

If your longest suit contains but four cards, headed by the ten or lower, you may lead from the top of the suit, rather than run the risk of sacrificing

*In trumps lead fourth best, except with six or more. †In trumps lead fourth best unless you also hold the ten. ‡If Q wins, follow with fourth best left in hand.

an honor in your partner's hand; although the safer way for the very beginner is to lead the fourth best even from such a weak holding as described, and let partner draw rigid inferences from your play.

These are the leads for the opening of a hand. When you are not the original leader, you can, in the majority of cases, adhere to them, although, not infrequently, occasion will arise when your better judgment will suggest a departure from them. It is justifiable to lead from a suit of less than four cards when your long suit has been started by your adversaries and you consider it dangerous to continue the suit, or when the previous play indicates that your short suit is your partner's long one.

FORCED LEADS.

When obliged to lead from a suit of less than four cards, the rule is to lead the highest, in order to strengthen your partner's hand, if the card you lead happens to be of his suit, and also in order to show him that you are weak in it. If you lead a K, Q, J, 10 or 9, and either of the cards which you ought to have held to justify the lead falls on the trick or is in your partner's hand, he knows at once that it was a forced lead, and governs himself accordingly.

It is best to be satisfied that your partner is strong in the suit before you lead a K or Q that has two guards, but with cards of lesser value you would not be likely to make tricks anyway, and they may be of assistance to your partner.

When leading from a short suit in which you have two honors, you lead the higher. If the card you lead wins the trick you follow with the other honor.

TRUMP PLAY.

If trumps is your longest suit, lead trumps. If you have the commanding cards in all the plain suits, or if you have one very long established suit and probable cards of reëntry in the two others, it is wise to lead trumps originally, even when you are short, and when short it is the rule to lead the highest; so that, with ace and one, king and one, queen and one, or knave and two small, you would lead the honor. With ace, king or queen, and two small, you would be justified in departing from the rule and leading your lowest, depending on the size of the turned card and whether it was desirable for you to lead or be led up to after the third round.

When long, the card to lead in the trump suit is the same as in the plain suits,* except as it may be affected by the size of the turned trump. If any card higher than the eight is turned and you hold two or more cards above it, you may lead the highest card of the sequence next above. That is to say, you must prevent the dealer from taking the trick with

A K Q T

* Except that you lead low from K, Q, unless you hold four or five small, and lead the top of the J, 10, 9, sequence, instead of fourth best.

the turned trump if you hold cards which justify the play.

While the main object of a scientific whist player is to establish and bring in a long suit, it must be admitted that in a large number of hands this object cannot be attained, and the best whist player is he who is quickest at perceiving when it is incumbent on him to abandon the idea of making a great hand out of any particular holding and to reach out for all the stray tricks in sight. When you cannot bring in your long suit, you must bend your energies in the direction of preventing your adversaries from bringing in theirs, and your trumps are the best weapons to employ. The smallest trump is good for the largest plain suit card, and when it becomes evident that you and your partner cannot make the most tricks by getting trumps out and making your long suit, it should be your endeavor to separate your trumps as far as possible, either on suits that you have started yourselves or on the suits started by the adversaries. Often it is necessary to have your partner trump the second or third round of your suit before you can establish it, and, in fact, there are many ways in which ruffing may be used to advantage. There is nothing so deadly as the cross-ruff.

SECOND-HAND PLAY.

Before the adoption of the fourth best lead the principal rule for a player to follow second hand

when a low card was led (and he did not hold two or more honors in sequence) was to play his lowest card, and when an honor was led to cover, but now it is different. The fourth best card proclaims so exactly the other cards that are held by the original leader that it is incumbent on the second-hand player to use his medium cards in such manner as to prevent the sacrifice of honors in the hand of his partner. There being thirteen cards in each suit, the lowest of which is the deuce, or two, it follows that the highest must rank as fourteen, and if you deduct from fourteen the three higher cards than the fourth best which the original leader holds, you have the "eleven rule," invented by Foster, to guide you in making up your mind as to how you may use the cards higher than the one led which are in your hand.

If the nine is led, there are only two cards out against it. If you have the king and one small card you must play the king and hold the trick, as the ace must be in the leader's hand, and whether your partner has the other card that is out against the leader's combination or not your king would be lost to the ace on the second round. The leader's holding must be either ace-queen-ten-nine or ace-knave-ten-nine.

If you hold the queen and one small, and the nine is led you may as well play your queen. The leader's highest card must be either the king or ace, and your queen would be useless on the second trick.

If the eight is led, there are three cards out against it. If you hold two of them it is well to play the lower of the two. If your partner has the other you hold the trick.

If the seven is led there are four cards out against it, and if you hold three of them you should cover.

If the card led is below the seven, covering is liable to be mistaken for a trump call (a process which will be explained later), and unless you have a sequence of the nine and higher you should play a low card.

There are several general rules which may be followed with safety in second-hand play.

If you have a holding which would justify the lead of a high card if you were in, it is proper to play a high card second hand.

If any card higher than the eight is led, and you hold the "fourchette," that is, the card immediately above and below in value, the play is to cover.

When you have two high cards in sequence and but one small card, you play the lower card of the sequence second hand, unless the card led is higher than yours, when, of course, you must play the low card.

With one high card and one small, you cover, if your hand will justify a trump lead, or if you are desirous of obtaining the lead, or if you can tell by the size of the card led that your high card cannot

become the master card on second round and it may save the master card in your partner's hand.

When by the eleven rule you can read that you have all the cards out against the original leader, you simply cover the card led and hold the trick, but you must be satisfied that the lead is not a forced one before you try to hold the trick in that way. If the cards not in your hand above the one led include high card sequences from which a high card should be led, then you know that the lead is false, and must play accordingly. If you have not the ace or a high card sequence yourself, the better way is to play low, and leave the leader's partner in doubt as much as possible as to the whereabouts of the medium cards.

It is hardly necessary to instruct even a beginner to put the ace in second hand when either the king, queen or knave is led. The ace is the only card out against any of these cards, and if the trick is passed you run the risk of losing your ace to a small trump, as the later the round of a suit, the more liable the other adversary is to be out. But if the queen is led, and you hold the king, the lead is marked as false, and you must govern yourself by the rest of your holding. If your king is only once guarded, you had better put it in, as third hand will undoubtedly finesse the queen; and if he holds the ace, your king would be caught on next round anyway, whereas, if your partner holds the ace you hold the trick. The same remarks will apply to a knave lead when you hold the

king and one small. With king-ten or king-nine and one or more small, it is best to cover queen or knave led, as if you pass, and the remaining high cards are all in third hand, you are liable not to make a trick, whereas if you cover, you are bound to do so, bar trumping. Similarly, with queen and one you would cover a knave or ten, and with queen-ten or queen-nine and two or more small you should cover the knave.

TRUMPING IN.

When a suit is led of which you are out, and it is doubtful whether your partner or opponent is the player able to take the trick, you trump in second hand, provided you hold not more than three trumps, and discard from your weak suit if you hold four or more trumps. If two of your three trumps are honors, and the remainder of your hand is such that you see a probability of gain by refusing to trump, you may take the risk; but if your hand will not stand a trump lead you had better trump in even with two honors, as, if your partner wins the trick or gets in before you are subsequently forced, he will in all probability lead trumps on the strength of your play. Contrarywise, it sometimes pays to trump in on a doubtful trick when you have four or more trumps, as for instance when your partner has signalled for trump and it is certain that you will not be overtrumped, or when you have nothing but winners

to discard. But there are many tricks lost by trying to find an excuse for breaking the rule, and in the great majority of cases it is best to follow it.

THIRD-HAND PLAY.

Sitting third hand there is little for you to do on a low card led by partner except to attempt to take the trick by playing your highest card or the lowest card of your highest sequence, *i. e.*, of course, unless second hand has already played a card which is higher than you can reach. There is one exception to this rule, and that is, holding ace and queen, you finesse the queen. This is a recognized play among experts, and should be adhered to strictly. If you play the ace you deny the queen, and your partner must place it against him, and play the rest of the hand accordingly.

If a high card is led by your partner, you play low or high, according to the remainder of your hand. By the eleven rule you may be able to figure that you and your partner have all the high cards in the suit, and if you were strong in trumps, you would take the trick and lead a trump, whereas if you were weak you would leave your partner in, and put the onus of the game on him. If you can figure that there is only one card out against you and your partner, and you have the command, you may finesse, provided you have tenaces in the other suits and would just as lief have the fourth player get in and

lead up to you; otherwise, it is best to play the master card and let your partner do the finessing in his own suit. If, however, the ten is the card led, and you hold the ace, you had better take the finesse, as, if the king is fourth hand, it will probably be guarded and would make in any event, whereas, if it is in second hand, by holding off you may capture it.

UNBLOCKING.

If you hold four cards of the suit which your partner leads originally, and his lead indicates that he may hold five or more, you play the suit exactly the same as you would if you held but three, with the smallest card out, reserving the smallest card for the fourth round. Your partner missing the small card locates it in your hand, and if he succeeds in establishing his suit you run no risk of blocking it by being obliged to take the fourth trick.

When you return your partner's lead, you return the lowest of four or more, the highest of three or less, always, of course, reserving the lowest card if there is any probability that your partner has five cards in his suit. If you retain your lowest to the first trick you return your highest remaining card, and if you have to discard from the suit you throw away the middle card.

RETURNED LEADS.

By the old English rule a player had to open his own suit before returning his partner's. This rule is by no means rigidly followed now, and may be

modified to read about as follows: If you have reason to believe your suit can be established sooner than your partner's, it is wise to open it in preference to returning his; if, on the other hand, it is evident that your partner's suit is stronger than yours, do not start a new suit. One suit is as many as you can bring in in one hand, and whatever medium strength you and your partner may have in another suit may be very useful in bringing in the first suit. If you do start a new suit it is a virtual command to your partner to abandon his suit and devote his energies to yours.

If you have won your partner's trick very cheaply, it is unwise to return his lead in any event. The strength in the suit must lie between your partner and the opponent on his left. If your partner has the ace-queen, your return of the suit forces him to put up the ace and establish the king for the opponent; if he has the king-knave, the opponent has him at his mercy. This is one of the situations that justifies the lead of a "strengthening" card. You have not a long suit strong enough to justify a low lead and the possible sacrifice of a high card in your partner's hand, so you lead him a medium high card from a short suit, which, if second hand does not cover, he can finesse, and put the player in the lead who has the secondary strength in his suit.

THE SIGNAL.

The signal for trumps is given by playing an unnecessarily high card on a plain suit led, afterward playing a lower one. By this means, when you are unable to get the lead, and you want to have trumps led, if your partner obtains the lead he is enabled to lead them for you. There is hardly any room for doubt as to the intention of a third or fourth hand play in respect to this signal, but great care must be taken not to mistake the play of a high card second hand for a trump signal. As explained in second hand play, with the nine, ten, knave, queen or king, and the cards next in value, you play high, but not unnecessarily so. You also cover the seven, eight and nine with certain combinations, and your partner must be satisfied that you do not hold the card next above or are trying to save high cards in his hand and prevent the establishment of the original leader's suit before he interprets your play as a signal for trumps. Contrarywise, when you go in second hand without the sequence which justifies it, your partner may give you strength in trumps and look upon your play as an attempt to get in and lead them.

If the signal is given after trumps are out, or after it is evident that it cannot mean a signal for trumps, it shows great strength or absolute command of the suit signalled in. It does not mean that the player wants that suit led to him, but that he can take a trick in it when necessary.

THE ECHO.

When your partner leads or signals for trumps, you must show him by your play whether you have three or less, or four or more. When he leads a high trump, with three or less you play your lowest; with four or more you play your third best. Then if you play a higher card on the second round he knows you held not more than three originally, while if you play a lower he gives you credit for four or more. When your partner leads a low trump originally, and you hold the trick or get in afterward before he does, you return the highest of three or less, and your original fourth best from four or more. When your partner has signalled for trumps, and you obtain the lead first, you lead him your fourth best from four or more, and your highest from three or less. If, however, your holding is headed by the ace, you lead the ace first, irrespective of number, and with three or less follow with the next to the ace, with four or more, drop down to the original fourth best. If you hold five, and your partner finds it necessary to lead the third round, it is better to play the third best on the third round than to play your lowest, as in the latter event your partner might not know whether to credit you with three or five. Similarly, when you have led your fourth best originally, and your partner leads the master card on second round, it is better to play the third best on second round than to drop to your lowest if you hold five, as, if you dropped the lowest,

your partner might be uncertain as to whether your original holding was two or five.

If you have to trump in before responding to your partner's call, you trump in with your second lowest when you have four, and lead the highest, dropping to the lowest on second round. If you have five, you trump in with the fourth best and lead the lowest, except holding the ace or two honors in sequence, when you trump in with third best and lead ace, or the lower of your two honors, following with fourth best or other honor.

If you have an opportunity to signal in a plain suit after your partner has called for trumps, and before you or he can get in to lead them, you do so provided you have four or more. Failure to signal under these conditions means that you have not more than three trumps.

When you wish to signal or echo and unblock at the same time you use your second and third best cards for the purpose.

DISCARDING.

Discard generally from your weak suit. If you have an honor in either of your opponent's suits, it is well, however, to keep it guarded, unless you are strong enough in trumps to suffer its loss without endangering your game. When your opponents have developed great strength against you, and it is necessary to discard from a head sequence, you discard the highest, to inform your partner you also have

the cards immediately below it. If you discard the second or third best, he gives your opponents credit for the master card.

INFERENCES.

LEAD. FOLLOW.

INFERENCE.

A....K....Has three or more small cards remaining.

If A is led, then another suit, probably has K and J, and is waiting for finesse.

If A is led then small card of same suit; has five small, or Q or J and two or more small remaining.

A....Q....Has J and one more remaining.

A....J....Has Q and two or more remaining.

A....10....Has Q and J only remaining.

K....A....Has two more remaining.

K....Q....Has A and one more remaining.

K....J....Has A and Q only remaining; or if A is against, has Q and one remaining.

K....10....Has Q and J only remaining.

Q....A....Has K and two more remaining.

Q....K....Has A and three more remaining.

J....A....Has K, Q and one more remaining.

J....K....Has A, Q and two more remaining.

J....Q....Has A, K and three more remaining.

10....Q....Has J and one more remaining.

10....J....Has Q and two more remaining.

10....9....Has Q, J and no more remaining.

9.....Has 10, Q, A; 10, J, A; or 10, J, K, with or without others.

8 or lower. . . Has three higher cards, not including A-K, A-Q-J, K-Q, or Q-J-10.

Plays an unnecessarily high card, afterwards playing a lower one; is signalling for trumps to be led.

Signals for trumps after partner has led trumps, or signalled for them; intimates that he has four or more trumps originally.

Signals after trumps are exhausted; is strong in suit signalled in, and probably has command of it.

Refrains from trumping a doubtful trick second hand; has at least four trumps.

Trumps a doubtful trick second hand; has not more than three trumps.

Plays a high card second hand on small card led; has no more, or has the card next above, and but one small card in the suit. If high card is played second hand without having the next above, and afterwards a lower card is dropped, it is a distinct intimation of strength in trumps, and must be taken as such. If partner plays 9, 10, J, Q, K or A, the inference is that he either has no more; or has the card next above in value with no more, or one more; or has one of the combinations which would justify the lead of the card played; or is covering to save the master card in his partner's hand.

Discards any suit; is probably weak in that suit.

VARIATIONS OF THE SIGNAL AND ECHO.

The original call was made by playing a higher then a lower card of the same suit, and was an invitation to partner to lead trumps, while the original echo was a similar signal on the part of the partner of the player who had called for or led trumps, to show the possession of more than three trumps. The calls and echoes were made with small, indifferent cards at first, but the principle was extended later on to cover high cards in sequence, so that a signal could be made whether attempting to take a trick or not.

The next extension of the principle was in the nature of a change in its meaning, and the play of a higher then a lower card of the same suit was made to show command of the suit signalled in: Of course, the signal could not be used for both purposes at the same time, so it was agreed that if a player failed to take advantage of the first opportunity he had to make a signal, to draw the inference that he did not wish to call for trumps, and if he made a signal afterwards it was to show command of the suit in which he signalled. And if the opponents had signalled for or led trumps, or otherwise shown great trump strength, the command signal could be made even if it were the first opportunity the player had to signal.

While one authority was evolving the command signal another authority came forward with the "reverse signal" to mean exactly the opposite, viz.,

weakness in the suit signalled in—the signal to be made under the same conditions as those under which the command signal was made, *i. e.*, when it could not be mistaken for a call for trumps.

But signalling did not stop even at this point. Having found it a good thing to show four trumps to partner, the question was raised, why not show three also? And forthwith the sub-echo was invented. In order to accomplish the sub-echo, however, it was necessary to do away with the command signal, or the show of weakness, as the sub-echo consisted in not echoing at the first opportunity, thereby denying four trumps, and echoing at the second opportunity to show exactly three.

Similarly, if you had echoed once to show four, echoing once more would show five.

Then another theorist came to the front with a plan to show three trumps, and at the same time keep the command signal intact. This plan consisted in showing four when you only had three, provided your partner showed five or more by his original lead. When your partner has five trumps, it is unlikely that you will hold four anyway, and if you echo, you show him you have at least three. When he has six trumps and each of the adversaries two, this enables him to locate the other trump with you; or if he has but five, and both adversaries have followed suit to the second round, he knows that he can exhaust the trumps on the third round.

The latest three echo consists in partner playing his second lowest trump on first trick, and third lowest on second trick, in every case in which he is not compelled to play a high trump on the original lead. That is to say, you play the same card on first trick whether you have three or four, and you go up on second round if you have only three, and down if you have four. The absence of the small card in the case of three locates it in your hand.

There is another echo which is made to show the possession of four trumps, irrespective of partner's lead of or call for trumps, which is made with three indifferent cards of a plain suit by playing the middle card first, the higher next, the lower last.

VARIATIONS OF THE DISCARD.

There is no feature of the game of whist which is more confusing to the student than the discard. The original modern convention was to discard from your short or weak suits, except to retain a guard to an honor or second best card when deemed advisable. After some experience with this discard, however, the authorities came to the conclusion that when the strength in trumps was declared against you it was safer to protect your weak suits and throw away from your longest, the latter being the suit in which you can best afford to part with the small cards, when there is no hope of bringing it in. Experience with this discard developed the fact that partners could not agree as to when the trump strength was

declared against them, and in order to make the rule easier to follow it was seriously proposed in "Whist" to have it read, "Discard from your strong suit when your adversaries lead trumps." This proposition, it is needless to say, did not meet with general approval, although it had quite a few supporters, and there are players who follow that rule to-day.

It was on account of the ambiguity of this discard that the command and weakness signals already spoken of were invented, and as the same signal stood for directly opposite conditions of the signaller's hand, or rather, as both signals were made in exactly the same way, confusion only became worse confounded by the new inventions. It became necessary for a player to ask his partner whether he played Drayson, or Pettes, or Cavendish, or Pole, before the first card of a hand was played, otherwise each was liable to do just exactly what the other did not want him to do.

But the invention of discards did not stop at this point. The play introduced by Rufus Allen, of Milwaukee, is to discard from your strong suit if trumps are led originally, whether by partner or opponent, and from your weak suits if a plain suit is opened originally. That is to say, if no plain suit has yet been shown by anyone, you discard from your best suit, or the one you want your partner to lead you; but if some one has shown a suit, you

discard from the one of the other two in which you are weak, or which you do not want him to lead you.

Then there is the Tormey discard, which was fully explained in "Whist" of January, 1895. This is a one card signal, the idea of which was taken from a Mexican game. The suits are considered as following each other in a certain order, as Spades, Hearts, Clubs, Diamonds, Spades, etc., and the discard of a card of any suit shows strength in the suit next following. A Spade discard means strength in Hearts, a Heart discard strength in Clubs, a Club discard strength in Diamonds and a Diamond discard strength in Spades. As you cannot discard a trump, you have to leave the trump suit out of the reckoning; so that if Spades were trump the order of the suits would be Hearts, Clubs, Diamonds, Hearts; if Hearts were trump, the order would be Spades, Clubs, Diamonds, Spades, and so on. This discard was frowned upon by "Whist," but has had its followers since the Fifth Congress, and as it proclaims both weakness and strength in unequivocal terms, it is certainly entitled to respectful consideration. Mr. P. J. Tormey, of San Francisco, one of the directors of the American Whist League, who was responsible for its introduction, modestly said at the time: "Whether it is good or bad whist play, I leave it to better judges than myself to adjudicate."

There is still another one card signal, which may be called the Pettes discard. This is a signal

for trumps by throwing off an eight or any higher card. Ordinarily, if your partner discarded a card as high as an eight you would suspect that he was commencing a signal, but if you are playing the Pettes discard, you must consider that he has already signalled and lead trumps as soon as you get in. This prevents discarding from weak suits which have no cards below the eight, but players who use this discard claim that it is seldom they cannot throw away a low card of their long suit when they do not want trumps.

POLE'S RHYMING RULES.

REVISED TO SUIT THE AMERICAN GAME.

If you the *fin de siècle* game of whist would know,
From this great principle its precepts mostly flow;
Your first and second leads let partner understand,
Both quantity and quality of suit in hand.

With ace, king, queen and knave, the lead's the knave or king;
With ace and king and queen, the queen or king's the thing;
With ace and king, the ace or king—the king if four,
The first of these if you have five in suit or more.

With king and queen and knave, with or without the ten,
With four lead king, with five or more the knave lead then;
With king and queen and two, the king should first be seen;
With king and queen and three, the first lead is the queen.

With queen and knave and ten, with or without the nine,
First lead the ten; with four, the queen is next in line;
But holding five or more, with knave you next proceed,
Though holding four with nine, the nine's the second lead.

With ace and queen and knave, with or without the ten,
The first lead is the ace, with queen you follow then,
With only four in suit; with five the knave's the play;
Though holding ten alone, follow with ten, they say.

(These secondary leads are on this basis played—
Indifferent high cards to tell the tale are made;
The lower of two shows five, the higher only four;
The middle of three shows five, the lowest six or more.)

With ace and six, ace-queen or knave and three, lead ace;
The fourth best is the lead in every other case.
In trumps don't lead high from ace-king, ace-queen, ace-knave,
king-queen,
Unless originally six in suit are seen.

When you your partner's plain suit lead return, take pains
To lead him back the very best your hand contains;
That is, if you received *not more than four* at first;
If you had more than that, you may return the worst.

In trumps, you lead him back the best with three or less,
The worst with four or more unless you ace possess.
Your partner do not force, if you in trumps are weak,
Unless it is quite plain a force he's tried to seek.

Whene'er you want a lead, you'll find 'tis seldom wrong,
To lead up to the weak, or (sometimes) through the strong;
Still, in the course of play, you often will find need
To twist this rule around so you can throw the lead.

When you discard, cards from weak suits you ought to choose,
For those in strong ones are too valuable to lose;
But should you discard from strong suit to guard your hand,
Then signal with the cards you throw, to show command.

To lead through honors turned is culpably bad play,
 Unless you wish to have the trump suit cleared away.
 When adversaries try that scheme of leading through,
 Don't keep command too long, or else the play you'll rue.

Mind well the rule for trumps, 'tis seldom wrong to lead them
 When you hold five with one, or four with honors two;
 And if the chance to lead won't come in time to you,
 Then you must signal to your partner so to do.

When, second hand, you hold one honor and one small,
 Don't jump in with the high unless you mean to call;
 And when, in that same place, a doubtful trick you see,
 Don't trump it if in trumps you hold more cards than three.

But if you're fourth in hand, don't fail a trick to take,
 Because you have four trumps, and one long suit to make.
 For sequences, remember, custom has decreed,
 That lowest of them you must play, when not your lead.

Don't get too bad a case of the unblocking craze,
 Or else you'll forfeit tricks in foolishness of ways;
 Retain the lowest card of four for the fourth round,
 But don't take partner's trick unless you know your ground.

In making opening leads, select your suit that's longest—
 For cards to bring it in you may require your strongest.
 Stick closely to these rules and when you "strike your gait,"
 You'll not lose many tricks at "straight" or "duplicate "

NEW SYSTEM OF LEADS.

Now that the adoption of the ten lead from queen-knave-ten has become almost general, and in view of the fact that the knave is considered the proper lead from king-queen-knave and the queen the

proper lead from ace-king-queen, it seems to me that the original leads could be greatly simplified by the adoption of a general rule, such as the following:

With three or more cards in sequence, the lowest of which is not below the ten, lead the third from the top.

With only two honors in sequence, both higher than the knave, lead the higher. With ace, queen, knave, lead ace; follow with queen to show four, knave to show five or more.

Without any high card holding as good as either of the above, lead your fourth best card.

If the above rule was adopted it would do away with the ten lead from king-knave-ten and the ace lead from ace and four or more small; but as these leads have virtually been abandoned already, the new rule would not interfere with the general mode of play in that respect. The new rule, however, would make a radical change in one respect, viz., in the lead of the queen to show five or more in suit and the lead of king to show exactly four, and that is where the principal objection to the proposed change will come in. However, according to some authorities, whose opinion is shared by quite a number of experts, the number of small cards shown by a lead is not so important as the exact strength displayed, and there is no question as to the superiority of the proposed change in the latter respect.

The lead of the ace would proclaim the king or queen-knave, the lead of the king would proclaim the queen, the queen would proclaim king and ace, the knave would show the queen and king, and the ten the knave and queen. Each of the high cards from the ace down to the ten, with the exception of the ace, would proclaim a certain holding; and as the ace usually wins, the next lead would clear away all uncertainty in regard to that also.

The high indifferent cards left in hand after the original lead could be used under the new system to show number of small cards in suit just the same as under the old, and the table of leads would not be altered much in this respect.

HOLDING.	NUMBER CARDS IN SUIT.		
	4	5	6
	L. F.	L. F.	L. F.
A, K, Q, J.....	Q A	Q K	Q J
A, K, Q.....	Q A	Q K	
A, K.....	A	A	
A, Q, J.....	A Q	A J	
K, Q, J, 10.....	J K	J Q	J 10
K, Q, J.....	J K	J Q	
K, Q.....	K	K	
Q, J, 10.....	10 Q	10 J	

The above is respectfully referred to the whist fraternity for consideration.

APPENDIX II.

CONGRESS PROGRAM.

DRAFT OF PROGRAM FOR CONTESTS

And Rules to Govern a Congress or Annual Meeting.

There will be four general contests during the session:

1. A contest for the Championship Trophy for the year. Individual Souvenirs to be awarded the winning team.

2. A contest for the first possession of the Challenge Trophy for the year. Individual Souvenirs to be awarded the winners.

3. A contest for club pairs, for a Special Trophy. Individual Souvenirs to be awarded the winners.

4. An individual contest at duplicate whist for a medal.

[Progressive Pair and Four games may be arranged by the tournament committee for the players not engaged in the general contests on such days as may be deemed convenient.]

GENERAL RULES.

1. All general contests will begin on the first day of the congress and continue uninterruptedly until the last day, the last day to be kept for the playing off of ties and for the finals.

2. Printed schedules will inform the players of the hour and place each contest will take place, and the schedules will be posted in the meeting rooms for the guidance of delegates.

3. A record of the results of each day's matches will be posted in the meeting room, or in such other conspicuous place as may be agreed upon.

4. Entries for the various contests will close at noon of the first day of the congress. All entries should be addressed to Chairman Tournament Committee.

5. Any team or player not ready to start within ten minutes after the time scheduled for commencing the play may be defaulted by the member of the tournament committee in charge of the game.

6. No person except the players, members of the tournament and executive committees and the recorders will be allowed in the rooms while a match game is in progress, without the unanimous consent of the players.

7. It shall be the duty of players to compare scores after each hand with the players at the same table, but no player shall be allowed to see any score not made at his own table until the end of each preliminary match or each third of the finals, at which time the scores will be announced by the tournament committee.

8. The tournament committee shall have the right to alter the rules in any matter of detail, should

the occasion in their opinion render it advisable so to do.

RULES FOR THE CHAMPIONSHIP AND CHALLENGE TROPHY
CONTESTS.

1. Each club shall play an equal number of hands against every other club, and the two clubs with the highest game scores shall play a final match of twenty-four hands to decide the winner.

2. The preliminary matches shall consist of eight or more hands, the number to be regulated by the tournament committee according to the number of entries; *provided*, however, that not more than forty-eight hands shall be played in any one day.

3. As many clubs shall play in one room or division as there are hands to be played in each preliminary match, and the hands shall be passed to all the tables in each division, and the north-south and east-west hands shall be averaged in each division.

4. Players shall not change partners during a preliminary match, but shall change partners after each such match, rotating with the other three members of their team. In the finals, however, they shall change after every third.

5. The number of hands to be played every day shall be divided into two portions as nearly equal as possible and divided between the afternoon and the evening. Afternoon play will begin at 2, evening play at 8.

6. Games resulting in a tie in the preliminary matches will not be played off, unless there are ties for second position at the finish, in which case the teams so tied shall play a match of twelve hands.

7. Every player must be a member of the club he represents.

RULES FOR CLUB PAIRS CONTEST.

1. Each pair shall play one match of eight or more hands against every other pair in the contest, and shall sit north-south or east-west according to the schedule for the number of entries in the contest.

2. The game will be divided into as many sections as half the number of entries divided by the number of hands in each match will give; *i. e.* there will be as many tables in each section as there are hands in each match, and the average of each section will be figured separately.

3. The gains and losses to each pair shall be figured by the respective averages of the hands they play, and the prizes shall be awarded to the team with the highest match score. In case of a tie in matches, tricks shall decide the winner, but if these are also tie, souvenirs shall be awarded to both teams, and the trophy shall be held six months by each, and be played for again at the next congress.

4. If the number of entries are so great that matches of eight hands cannot be played against

every other pair, the Whitfeld system of progressive play shall be adopted.

INDIVIDUAL CONTEST.

1. Each individual shall play once with and twice against every other individual in the contest, and shall sit north, east, south or west according to the schedule for the number of entries in the contest.

2. The gains and losses shall be figured by the average for the hands played by each individual, and the prize shall be awarded to the individual with the highest match score. In case of a tie in matches, tricks shall decide the winner. In case these also are a tie, the prize will be duplicated.



APPENDIX III.

DRAFT OF BY-LAWS FOR
— WHIST CLUB.

— WHIST CLUB.

BY - LAWS.

ARTICLE I.

NAME.

This shall be called the — Whist Club.

ARTICLE II.

OBJECT.

Its purposes shall be to develop and perfect the game of whist, to instruct its members in the science thereof, and to promote good fellowship among its members.

ARTICLE III.

OFFICERS.

A President, Vice-President, Secretary and Treasurer shall be chosen at each annual meeting and shall hold office for one year, and until their successors are elected.

There shall also be chosen from the members eight Trustees. Those elected at the first election shall divide themselves into two classes of four each; the first class to hold office one year and the second two years. At each annual meeting thereafter there

shall be chosen four Trustees, whose term of office shall be two years, to fill the class whose term will then expire. The President, Vice-President, Secretary and Treasurer for the time being shall be Trustees, making the whole number of Trustees twelve.

There shall also be chosen at each annual meeting a Whist Committee, consisting of five members of the Club.

ARTICLE IV.

ELECTIONS.

The election of Trustees and the Whist Committee shall take place at the rooms of the Club on the day of the annual meeting in each year, and shall be by ballot. Polls shall be opened at 12 o'clock M., and closed at 9 o'clock P. M.

ARTICLE V.

At the regular monthly meeting of the Trustees in in each year there shall be appointed three Judges of Election, members of the Club, who shall have charge of receiving and counting all ballots cast, and who, immediately after election, shall certify to the Secretary the names of all officers elected, and the number of ballots cast for each candidate.

At said meeting of the Trustees there shall also be appointed two Nominating Committees of five members each, both of which

committees shall be composed of members of the Club, but in one of which there shall be no officers of the Club. Each of these committees shall nominate a ticket for Trustees, officers and the Whist Committee, to be voted for at the annual election; which tickets, with a proper designation of the committees nominating them respectively, shall be posted in some conspicuous place in the rooms of the Club, at least ten days before election. Any number of members, not less than ten, may nominate other candidates for any or all offices, such nominations to be in writing over the signatures of the members making them, and to be placed in the hands of the Secretary; and a certificate of the Secretary shall be appended to the names thus nominated, certifying that they have been nominated by not less than ten members of the Club. The names of all candidates thus nominated shall be posted as aforesaid at least six days before the annual election.

When the time has expired for posting the names of candidates, the Secretary shall cause the names of all candidates to be printed on one ticket, indicating thereon the offices for which they are severally nominated; and the ticket so made up shall be mailed to each member at least three days before election. Any member voting shall hand his ballot to the Judges of Election, or send the same to them, or one of them, vouched for by the member's signature.

Each member voting, so far as he desires to exercise the privilege, shall place a mark opposite the name of the candidate of his choice for each of the various offices to be filled; and only names so marked shall be counted by the Judges of Election. The names of the successful candidates, and the offices to which they shall be respectively elected by a plurality of the ballots cast for candidates of the respective offices, certified by the Judges of Election to the Secretary as aforesaid, shall be announced at the annual meeting, or at a meeting to which the same shall adjourn, and be recorded upon the records of the Club.

In case of a failure to hold an election on the day herein specified, or in case of a failure to elect any officer on such day, then the Club may, at any regular or special meeting, order an election to be held at a subsequent date, and make such directions in reference to judges of election and nominating committees as it may see fit.

ARTICLE VI.

The Club shall have the power of vacating the places of any or all of the Trustees, officers or Whist Committee, by a vote of two-thirds of the members present at a special meeting of the Club, called for the purpose of voting thereon, and of filling any vacancy so created, or occurring from any other cause, at some subsequent meeting called for that purpose.

ARTICLE VII.

POWERS AND DUTIES OF OFFICERS.

The President of the Club, and in his absence the Vice-President, shall authorize the call of all meetings of the Club and of the Trustees, and shall exercise the usual functions of a presiding officer.

ARTICLE VIII.

The Secretary of the Club shall notify each member of the Club of every meeting of the Club, and each Trustee of all the meetings of the Trustees; issue all other authorized notices to members; make and keep a true record of all the meetings of the Club and Trustees; have custody of its articles of organization, by-laws and corporate seal, and conduct its correspondence.

ARTICLE IX.

The Treasurer shall receive, collect and, under the direction of the Trustees, disburse the funds of the Club, and shall keep regular accounts thereof, which shall be subject to the examination of the President and Trustees. He shall submit a statement thereof to the Trustees whenever by them required. He shall, when required by the Trustees, give a bond conditioned for the faithful performance of his duties, the amount of which and the approval thereof shall be left to the discretion of the Trustees.

ARTICLE X.

The Trustees shall have paramount control and general charge of the affairs, funds and property of the Club. It shall be their duty to carry out the objects and purposes thereof, and to this end they may exercise all the powers of the Club, subject to the articles of organization and by-laws, and to such action as the Club may take at its special or stated meetings.

ARTICLE XI.

The Trustees shall have the power to fill, until the next following annual meeting, any vacancy which may occur either by death or resignation among the Trustees, officers or Whist Committee of the Club.

ARTICLE XII.

The Trustees shall cause to be prepared annually a detailed statement of the financial condition of the Club, showing its receipts and expenses of the current year, the number of members, and other matters of general interest to the Club, and the statement thereof shall be printed and a copy sent to each member, at least three days previous to the annual meeting.

ARTICLE XIII.

The Trustees shall from time to time make rules and regulations on matters not determined by the by-laws, and enforce the same; and adopt and

enforce such methods of discipline, short of expulsion, with reference to the conduct of members, as occasion may from time to time seem to require, and as in their opinion shall be for the best interests of the Club.

ARTICLE XIV.

A quorum of the Trustees shall consist of five of its members.

ARTICLE XV.

MEMBERSHIP.

Any gentleman in good social standing shall be eligible to membership. The limit of active membership shall be

ARTICLE XVI.

Any person wishing to become a member of the Club shall make a written application to the Secretary, stating his occupation and place of residence, and bearing the endorsement of two members in good standing.

ARTICLE XVII.

The application shall be posted upon the bulletin board of the Club two weeks prior to action thereon, and shall be considered by the Trustees at their first meeting after it has been posted as stated. If it receives no more than two negative ballots, the applicant shall be declared elected a member.

ARTICLE XVIII.

Any Trustee may, at the same meeting, move a reconsideration of a vote upon the admission of a candidate; but after an adjournment, no rejected candidate shall be eligible for six months thereafter.

ARTICLE XIX.

Every member of the Club shall pay an admission fee of Dollars, and the sum of Dollars as annual dues, payable half-yearly in advance on the first days of and in each year.

ARTICLE XX.

Every person elected a member shall, within thirty (30) days after being informed thereof by the Secretary, pay to the Treasurer the amount of his admission fee, and a proportion of the semi-annual dues corresponding to the unexpired portion of the current half year (no notice being taken of a fraction of a month).

If the initiation fee and such dues are not paid within said thirty days, the election may be declared void by the Trustees.

ARTICLE XXI.

The Trustees may in their discretion remit the dues of members absent from the city for a term of not less than six months consecutively, upon their application.

ARTICLE XXII.

Persons residing miles or more from the city may be elected Associate Members in the manner provided for the election of regular members. They shall not be required to pay the initiation fee, but shall pay an annual subscription of Dollars. Associate members shall not be eligible to office, or have any voting privilege or interest in the property of the Club.

ARTICLE XXIII.

Honorary Members may be admitted by the vote of the Trustees in the same manner as regular members are elected. They shall have the liberty of the Club House, but shall not be eligible to office, or have any voting privilege or interest in the property of the Club.

ARTICLE XXIV.

The Trustees shall have power, by a vote of a majority of its members, to suspend or forfeit the membership of any member who shall neglect to pay his annual dues for more than sixty (60) days, or any other indebtedness to the Club, within ten (10) days after demand made, especial notice of such other indebtedness having been given by the Treasurer to the Trustees.

ARTICLE XXV.

Any member may be expelled, when this shall be thought by the Club advisable, for malfeasance in

office or for ungentlemanly conduct; such expulsion shall be by a two-thirds vote of the members present at a special meeting called to consider the case, and all members of the Club shall be notified of the proposed action. The member accused shall have at least one week's notice in writing of the charge preferred. He shall be entitled to an opportunity to be heard in his defense, either in person or by counsel.

ARTICLE XXVI.

Any member whose annual dues are fully paid may resign his membership; but any person ceasing to be a member of the Club through resignation or otherwise, shall forfeit all right and interest in the property of the Club.

ARTICLE XXVII.

MEETINGS.

The annual meeting of the Club shall be held on the day of of each year. members present shall constitute the necessary quorum for a valid meeting, but a less number may adjourn the meeting.

ARTICLE XXVIII.

Special meetings of the Club may be called at any time by the President, upon written notice by mail to each member, stating the object of the meeting. A special meeting shall also be called by

the President upon written request of any fifteen members upon like notice.

ARTICLE XXIX.

The Trustees shall hold regular meetings on the day of each month. Special meetings of the Trustees may be called by order of the President, or in his absence, of the Vice-President. The Trustees shall also hold special meetings whenever requested by four members of the Board.

ARTICLE XXX.

NOTICES.

All notices shall be sent to such address as shall be left with the Secretary. If no address is given, such notice shall be sufficient if addressed to the member at his last known place of residence.

ARTICLE XXXI.

COMMITTEES.

The regular Standing Committees of the Club shall be a House Committee, a Membership Committee and an Auditing Committee, each consisting of three members of the Board chosen by it.

ARTICLE XXXII.

The House Committee shall have charge of all matters pertaining to the Club House and the Club property, and shall adopt rules subject to the approval of the Trustees, for its government.

ARTICLE XXXIII.

The Auditing Committee shall audit all bills before they are paid by the Treasurer, examine and audit the Treasurer's accounts, and perform any other duties required by the Trustees pertaining to the finances of the Club.

ARTICLE XXXIV.

The Membership Committee shall investigate all applications for membership and report thereon to the Board.

ARTICLE XXXV.

The Whist Committee shall arrange for contests within the Club and with other Whist Clubs. They shall decide upon points of play and interpretation of whist laws and rules adopted by the Club, whenever differences in relation thereto are submitted to them. They shall institute any methods they may deem advisable to promote the efficiency of the players. They shall provide playing and score cards.

ARTICLE XXXVI.

WHIST LAWS.

The laws of the American Whist League shall govern the play of the Club in matches played at the Club House. The Whist Committee shall not be called upon to settle any questions except such as arise under these laws and under the rules adopted by the club.

ARTICLE XXXVII.

Card playing in the Club room for money shall not be permitted.

ARTICLE XXXVIII.

AMENDMENTS.

To amend the By-Laws, an affirmative vote of two-thirds of the members present at a general or special meeting, called for that purpose, shall be requisite. But no proposition to amend the By-Laws shall be submitted to the Club for action thereon which has not been submitted in writing to the Secretary by at least ten members, or has received the approval of a majority of the Trustees at a regular meeting of the Board. In either case the Secretary shall cause the proposed amendment to be printed and mailed to each member at least seven days before the meeting at which action is to be taken thereon, and at the same time with the notice of such meeting.

DRAFT OF HOUSE RULES.

The Club House will be open to members every day, except Sunday, at 10 A. M.

The Club House shall be closed at 12:30 A. M., and all service shall be withdrawn at that hour.

VISITORS.

Residents of the city, and within a radius of miles thereof, shall be deemed resident visitors

and may be invited to the Club House not to exceed three times in one year.

Non-residents may be invited at any time.

At the request of any member of the Club, the Secretary shall issue a card extending to a non-resident visitor the privileges of the Club for a period of fifteen days.

The name and residence of each visitor, and the name of the member introducing him, shall be registered by such member in the book provided by the Club for that purpose.

Members introducing strangers into the Club will be considered responsible for their conduct while in the house and for any debt that may accrue on their account.

INDEBTEDNESS.

Members are requested to sign cards for all orders when served, or if payment is made when order is served, to write "Paid" across the face of the card accompanying the order.

Members should discharge all indebtedness to the Club, before leaving the house.

For the purpose of calling attention of members to any current indebtedness, notices will be mailed every second Monday, and on the following Monday the names of the delinquents, with the amounts due, shall be posted on the bulletin board of the Club. If payment is not made within three days from date of such posting, the names of the delinquents shall be

reported to the Board of Trustees, and until such debt shall be paid, further credit to such members shall cease.

RESTRICTIONS.

No member shall take from the Club House any book, pamphlet or newspaper, or any other article belonging to the Club.

Servants shall not be sent out of the Club House without permission of the House Committee.

Glass, crockery or other property of the Club broken or injured, must be promptly paid for by the member responsible for the accident.

Any member suspended for non-payment of dues, or other indebtedness, shall not be allowed in the Club House, unless reinstated by the Board of Trustees.

COMPLAINTS.

Members are requested to make all complaints or suggestions in writing, and address the same to the House Committee.

APPENDIX IV.

THE LAWS OF AMERICAN WHIST.

THE LAWS OF WHIST.

As Revised and Adopted at the Third American Whist Congress,
Chicago, June 20-24, 1893.

THE GAME.

1. A game consists of seven points, each trick above six counting one. The value of the game is determined by deducting the loser's score from seven.

FORMING THE TABLE.

2. Those first in the room have the preference. If, by reason of two or more arriving at the same time, more than four assemble, the preference among the last comers is determined by cutting, a lower cut giving the preference over all cutting higher. A complete table consists of six; the four having the preference play. Partners are determined by cutting; the highest two play against the lowest two; the lowest deals and has the choice of seats and cards.

3. If two players cut intermediate cards of equal value, they cut again; the lower of the new cut plays with the original lowest.

4. If three players cut cards of equal value, they cut again. If the fourth has cut the highest card, the lowest two of the new cut are partners, and

the lowest deals. If the fourth has cut the lowest card, he deals and the highest two of the new cut are partners.

5. At the end of a game, if there are more than four belonging to the table, a sufficient number of the players retire to admit those awaiting their turn to play. In determining which players remain in, those who have played a less number of consecutive games have the preference over all who have played a greater number. Between two or more who have played an equal number, the preference is determined by cutting, a lower cut giving the preference over all cutting higher.

6. To entitle one to enter a table, he must declare his intention to do so before any one of the players has cut for the purpose of commencing a new game or of cutting out.

CUTTING.

7. In cutting, the ace is the lowest card. All must cut from the same pack. If a player exposes more than one card, he must cut again. Drawing cards from the outspread pack may be resorted to in place of cutting.

SHUFFLING.

8. Before every deal the cards must be shuffled. When two packs are used, the dealer's partner must collect and shuffle the cards for the ensuing deal, and place them at his right hand. In all cases the dealer may shuffle last.

9. A pack must not be shuffled during the play of a hand, nor so as to expose the face of any card.

CUTTING TO THE DEALER.

10. The dealer must present the pack to his right-hand adversary to be cut. The adversary must take a portion from the top of the pack and place it towards the dealer. At least four cards must be left in each packet. The dealer must reunite the packets by placing the one not removed in cutting upon the other.

11. If, in cutting or in reuniting the separate packets, a card is exposed, the pack must be reshuffled by the dealer and cut again. If there is any confusion of the cards, or doubt as to the place where the pack was separated, there must be a new cut.

12. If the dealer reshuffles the pack after it has been properly cut, he loses his deal.

DEALING.

13. When the pack has been properly cut and reunited, the dealer must distribute the cards, one at a time, to each player in regular rotation, beginning at his left. The last, which is the trump card, must be turned up before the dealer. At the end of the hand, or when the deal is lost, the deal passes to the player next to the dealer on his left, and so on to each in turn.

14. There must be a new deal by the same dealer:—

I. If any card except the last is faced in the pack.

II. If, during the deal, or during the play of the hand, the pack is proved incorrect or imperfect; but any prior score made with that pack shall stand.

15. If, during the deal, a card is exposed, the side not in fault may demand a new deal, provided neither of that side has touched a card. If a new deal does not take place, the exposed card is not liable to be called.

16. Anyone dealing out of turn, or with his adversaries' pack, may be stopped before the trump card is turned, after which the deal is valid, and the packs, if changed, so remain.

MISDEALING.

17. It is a misdeal:—

I. If the dealer omits to have the pack cut, and his adversaries discover the error before the trump card is turned, and before looking at any of their cards.

II. If he deals a card incorrectly, and fails to correct the error before dealing another.

III. If he counts the cards on the table or in the remainder of the pack.

IV. If, having a perfect pack, he does not deal to each player the proper number of

cards, and the error is discovered before all have played to the first trick.

v. If he looks at the trump card before the deal is completed.

vi. If he places the trump card face downwards upon his own or any other player's cards.

A misdeal loses the deal, unless during the deal either of the adversaries touches a card, or in any other manner interrupts the dealer.

THE TRUMP CARD.

18. The dealer must leave the trump card face upwards on the table until it is his turn to play to the first trick. If it is left on the table until after the second trick has been turned and quitted, it is liable to be called. After it has been lawfully taken up, it must not be named, and any player naming it is liable to have his highest or his lowest trump called by either adversary. A player may, however, ask what the trump suit is.

IRREGULARITIES IN THE HANDS.

19. If, at any time after all have played to the first trick, the pack being perfect, a player is found to have either more or less than his correct number of cards, and his adversaries have their right number, the latter, upon the discovery of such surplus or deficiency, may consult and shall have the choice:—

- I. To have a new deal; or,
- II. To have the hand played out, in which case the surplus or missing card or cards are not taken into account.

If either of the adversaries also has more or less than his correct number, there must be a new deal.

If any player has a surplus card by reason of an omission to play to a trick, his adversaries can exercise the foregoing privilege only after he has played to the trick following the one in which such omission occurred.

CARDS LIABLE TO BE CALLED.

20. The following cards are liable to be called by either adversary—

- I. Every card faced upon the table otherwise than in the regular course of play, but not including a card led out of turn.
- II. Every card thrown with the one led or played to the current trick. The player must indicate the one led or played.
- III. Every card so held by a player that his partner sees any portion of its face.
- IV. All the cards in a hand lowered or shown by a player so that his partner sees more than one card of it.
- V. Every card named by the player holding it.

21. All cards liable to be called must be placed and left face upwards on the table. A player must lead or play them when they are called, provided he can do so without revoking. The call may be repeated at each trick until the card is played. A player cannot be prevented from leading or playing a card liable to be called. If he can get rid of it in the course of play, no penalty remains.

22. If a player leads a card better than any his adversaries hold of the suit, and then leads one or more other cards without waiting for his partner to play, the latter may be called upon by either adversary to take the first trick, and the other cards thus improperly played are liable to be called. It makes no difference whether he plays them one after the other, or throws them all on the table together, after the first card is played, the others are liable to be called.

23. A player having a card liable to be called, must not play another until the adversaries have stated whether or not they wish to call the card liable to the penalty. If he plays another card without awaiting the decision of the adversaries, such other card also is liable to be called.

LEADING OUT OF TURN.

24. If any player leads out of turn, a suit may be called from him or his partner the first time it is the turn of either of them to lead. The penalty can

be enforced only by the adversary on the right of the player from whom a suit can be lawfully called.

If a player so called on to lead a suit has none of it, or if all have played to the false lead, no penalty can be enforced. If all have not played to the trick, the cards erroneously played to such false lead are not liable to be called and must be taken back.

PLAYING OUT OF TURN.

25. If the third hand plays before the second, the fourth hand also may play before the second.

26. If the third hand has not played, and the fourth hand plays before the second, the latter may be called upon by the third hand to play his highest or lowest card of the suit led, or if he has none, to trump or not to trump the trick.

ABANDONED HANDS.

27. If all four players throw their cards on the table, face upwards, no further play of that hand is permitted. The result of the hand, as then claimed or admitted, is established, provided that if a revoke is discovered, the revoke penalty attaches.

REVOKING.

28. A revoke is a renounce in error not corrected in time. A player renounces in error when, holding one or more cards of the suit led, he plays a card of a different suit.

A renounce in error may be corrected by the player making it before the trick in which it occurs

has been turned and quitted, unless either he or his partner, whether in his right turn or otherwise, has led or played to the following trick, or unless his partner has asked whether or not he has any of the suit renounced.

29. If a player corrects his mistake in time to save a revoke, the card improperly played by him is liable to be called. Any player or players who have played after him may withdraw their cards and substitute others. The cards so withdrawn are not liable to be called.

30. The penalty for revoking is the transfer of two tricks from the revoking side to their adversaries; it can be enforced for as many revokes as occur during the hand. The revoking side cannot win the game in that hand; if both sides revoke, neither can win the game in that hand.

31. The revoking player and his partner may require the hand in which the revoke has been made to be played out, and score all points made by them up to the score of six.

32. At the end of a hand, the claimants of a revoke may search all the tricks. If the cards have been mixed, the claim may be urged and proved, if possible; but no proof is necessary and the revoke is established if, after it has been claimed, the accused player or his partner mixes the cards before they have been examined to the satisfaction of the adversaries.

33. The revoke can be claimed at any time before the cards have been presented and cut for the following deal, but not thereafter.

MISCELLANEOUS.

34. Anyone, during the play of a trick, and before the cards have been touched for the purpose of gathering them together, may demand that the players draw their cards.

35. If anyone, prior to his partner playing, calls attention in any manner to the trick or to the score, the adversary last to play to the trick may require the offender's partner to play his highest or lowest of the suit led, or, if he has none, to trump or not to trump the trick.

36. If any player says, "I can win the rest," "The rest are ours," "We have the game," or words to that effect, his partner's cards must be laid upon the table and are liable to be called.

37. When a trick has been turned and quitted, it must not again be seen until after the hand has been played. A violation of this law subjects the offender's side to the same penalty as in case of a lead out of turn.

38. If a player is lawfully called upon to play the highest or lowest of a suit, or to trump or not to trump a trick, or to lead a suit, and unnecessarily fails to comply, he is liable to the same penalty as if he had revoked.

39. In all cases where a penalty has been incurred, the offender must await the decision of the adversaries. If either of them, with or without his partner's consent, demands a penalty to which they are entitled, such decision is final. If the wrong adversary demands a penalty, or a wrong penalty is demanded, none can be enforced.

ETIQUETTE OF WHIST.

As Adopted by the Third American Whist Congress, 1893.

The following rules belong to the established code of whist etiquette. They are formulated with a view to discourage and repress certain improprieties of conduct, therein pointed out, which are not reached by the laws. The courtesy which marks the intercourse of gentlemen will regulate other more obvious cases.

i. No conversation should be indulged in during the play, except such as is allowed by the laws of the game.

ii. No player should in any manner whatsoever, give any intimation as to the state of his hand or of the game, or of approval or disapproval of a play.

iii. No player should lead until the preceding trick is turned and quitted.

iv. No player should, after having led a winning card, draw a card from his hand for another lead until his partner has played to the current trick.

v. No player should play a card in any manner so as to call particular attention to it; nor should he

demand that the cards be placed in order to attract the attention of his partner.

vi. No player should purposely incur a penalty because he is willing to pay it, nor should he make a second revoke in order to conceal one previously made.

vii. No player should take advantage of information imparted by his partner through a breach of etiquette.

viii. No player should object to referring a disputed question of fact to a bystander who professes himself uninterested in the result of the game, and able to decide the question.

ix. Bystanders should not in any manner call attention to or give any intimation concerning the play, or the state of the game, during the play of a hand. They should not look over the hand of a player without his permission; nor should they walk around the table to look at the different hands.

LAWS OF DUPLICATE WHIST.

Adopted May 24, 1894, at the Fourth American Whist Congress.

Duplicate whist is governed by the Laws of Whist, except in so far as they are modified by the following Special Laws:

THE GAME AND THE SCORE.**LAW A.**

A game or match consists of any agreed number of deals, each of which is played once only by each player.

The contesting teams must be of the same number, but may each consist of any agreed number of pairs, one-half of which, or as near thereto as possible, sit north and south, the other half east and west.

Every trick taken is scored, and the match is determined by a comparison of the aggregate scores won by the competing teams. In case the teams consist of an odd number of pairs, each team in making up such aggregate adds, as though won by it, the average score of all the pairs seated in the position opposite to its odd pair.

Each side keeps its own score, and it is the duty of the north and south players at each table to compare the scores there made and see that they correspond. In case they fail to perform this duty, the east and west scores are taken as correct, and the north and south scores made to correspond thereto.

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In a match between two teams, the team which wins a majority of all the tricks scores the match as won by that number of tricks which it has taken in excess of one-half the total.

In a match between more than two teams, each team wins or loses, as the case may be, by the number of tricks which its aggregate score exceeds or falls short of the average score of all the competing teams.

In taking averages fractions are disregarded and the nearest whole number taken, one-half counting as a whole, unless it is necessary to take the fraction into account to avoid a tie, in which case the match is scored as won by "the fraction of a trick."

FORMING THE TABLES.

LAW B.

Tables may be formed by cutting or by agreement.

In two-table duplicate, if the tables are formed by cutting, the four having the preference play at one table, and the next four at the other. The highest two at one table are partners with the lowest two at the other. The highest two at each table sit north and south; the lowest two east and west.

DEALING AND MISDEALING.

LAW C.

The deal is never lost. In case of a misdeal, or of the exposure of a card during the deal, the cards must be redealt by the same player.

THE TRUMP CARD.

LAW D.

The trump card must be recorded, before the play begins, on a slip provided for that purpose. When the deal has been played the slip on which the trump card has been recorded must be placed by the dealer on the top of his cards; but the trump card must not be again turned until the hands are taken up for the purpose of overplaying them, at which time it must be turned and left face upward on the table until it is the dealer's turn to play to the first trick. The slip on which the trump card is recorded must be turned face downwards as soon as the trump card is taken up by the dealer.

IRREGULARITIES IN THE HANDS.

LAW E.

If a player is found to have either more or less than his correct number of cards, the course to be pursued is determined by the time at which the irregularity is discovered.

- I. Where the irregularity is discovered before or during the original play of the hand:—
There must be a new deal.
- II. Where the irregularity is discovered when the hand is taken up for overplay, and before such overplay has begun:—

The hand in which the irregularity is so discovered must be sent back to the table from which it was last received, and the error be there rectified.

III. Where the irregularity is not discovered until after the overplay has begun:—

In two-table duplicate there must be a new deal; but in a game in which the same hands are played at more than two tables, the hands must be rectified as above, and then passed to the next table, without overplay at the table at which the error was discovered; in which case, if a player had a deficiency and his adversary the corresponding surplus, each team takes the average score for that deal. If, however, his partner had the corresponding surplus, his team is given the lowest score made at any table for that deal.

PLAYING THE CARDS.

LAW F.

Each player, when it is his turn to play, must place his card face upwards before him, and toward the center of the table, and allow it to remain upon the table in this position until all have played to the trick, when he must turn it over and place it face downwards, and nearer to himself, placing each successive card as he turns it on top of the last card previously turned by him. After he has played his card, and also after he has turned it, he must quit it by removing his hand.

A trick is turned and quitted when all four players have turned and quitted their respective cards.

The cards must be left in the order in which they were played until the scores for the deal are recorded.

CLAIMING A REVOKE.

LAW G.

A revoke may be claimed at any time before the last trick of the deal in which it occurs has been turned and quitted, and the scores of that deal recorded, but not thereafter.

SINGLE TABLE OR MNEMONIC DUPLICATE.

The laws of duplicate whist govern, where applicable, except as follows:

Each player plays each deal twice, the second time playing a hand previously played by an adversary.

Instead of turning the trump, a single suit may be declared trumps for the game.

On the overplay the cards may be gathered into tricks, instead of playing them as required by Law F.

In case of the discovery of an irregularity in the hands, there must always be a new deal.

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